FLORIDA WILDLIFE®

Volume 46, Number 1

January-February 1992

How Does The Place You Live Affect Wild Animals?

Background:

- As we build homes and develop lands that were formerly wild, wildlife habitat is degraded, fragmented and sometimes lost altogether. Wild animal populations decline and disappear because they cannot alter their habitat requirements — the food, water, shelter and amount of space or territory — to reproduce and raise their young. Many traditional landscaping practices also degrade wildlife habitat.
- Many birds are declining in Florida because of the scarcity of standing dead trees preferred by cavity-nesting birds.

What You Can Do:

- Choose a housing situation that doesn't contribute to additional habitat loss. Select a home in town or in an existing development.
- If you do live on several acres of land, consider donating some of your development rights to a land trust.
- If you have a lawn, replace unused areas of grass with beds of trees, shrubs and ground cover to enhance your wildlife habitat.
- Landscape with native plants.
- If practical — leave one or two dead trees (snags) standing per quarter-acre lot.
- Where dead trees are absent, use nest boxes to enhance local cavity-nesting bird populations, especially bluebirds and kestrels.
- Install a simple, permanent water source for wildlife on your property.

WHAT HAVE YOU DONE FOR WILDLIFE LATELY?

For more information about things you can do to help wildlife, write to:

Help Wildlife • Florida Game and Fresh Water Fish Commission
620 South Meridian Street • Tallahassee, Florida 32399-1600

FLORIDA WILDLIFE®

Volume 46, Number 1

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Fish Commission 1992
Publisher

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FLORIDA WILDLIFE (ISSN 0015-4369) is published bimonthly by the Florida Game and Fresh Water Fish Commission, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Second-class postage paid at Tallahassee, Florida. Post Office Publication Number 202440. MATERIALS IN FLORIDA WILDLIFE include copyrighted materials that are property of individual contributors. WRITTEN PERMISSION TO USE the Publisher's materials will be granted by the editor for noncommercial, public informational purposes. MANUSCRIPTS PHOTOGRAPHS AND OTHER SUBMISSIONS are received only with the understanding that the Publisher assumes no responsibility for any loss or damage. Contributors should request "HOW TO SUBMIT" before sending materials. SUBSCRIPTION PRICES: $7 for one year (six issues); $14 for two years (12 issues); $20 for three years (18 issues).

Hunting snakes to observe and photograph can be an enjoyable hobby. Read where and how to hunt snakes beginning on page 2.

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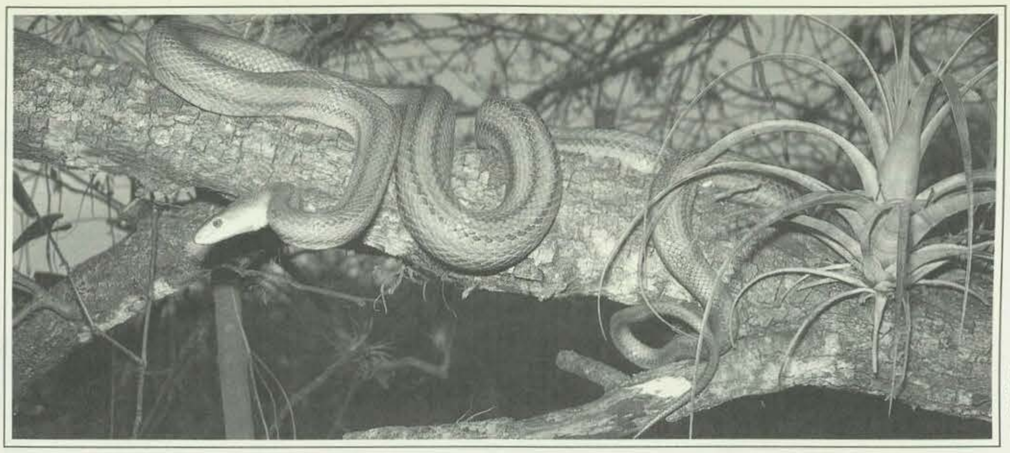
Covers

William J. Weber took the front-cover photograph of a raccoon fishing for a meal. He also photographed the wood duck nestling on our back cover. Read about the Commission's nest box program for these beautiful waterfowl on page 27.



W.B. LOVE

The Basics of Snake Hunting In Florida

By Kevin Enge

When I dream of hunting, I don't have visions of deer or turkeys running through my head. My version of hunting doesn't require a gun or bow and a furred or feathered beast. I really don't need any equipment, although a snake hook and pillowcase may come in handy. I hunt scaly quarry that crawl on their bellies. When I hunt snakes I capture them unharmed to study and photograph.

However, snakes are often despised and feared or killed by many otherwise reasonable people. Killing a snake offers as much challenge as attacking a length of garden hose. It's true that snakes can defend themselves by biting, but they employ this tactic only when antagonized or cornered. I can honestly say, after being bitten hundreds of times by snakes ranging from 13 inches to 13 feet, that a scratch from a kitten hurts worse than a bite from our native snakes, with the exception of poisonous or very large ones. Most of the pain associated with a snakebite is psychological rather than physical.

Researchers have not identified an innate fear of snakes in other primates, yet psychologists estimate that in the United States more than half of us feel at least mildly squeamish around snakes and 20 percent feel intense fear. Some are even afraid to look through a wildlife magazine because it might have a snake picture. Stanford University psychologist Albert Bandura says two-thirds of those who are afraid of snakes inherited the fear from their parents, the other third report a traumatic incident involving a snake.

History of Snake Hunting in Florida

Reptiles and amphibians have played a more celebrated role in the history and development of Florida than in any other state. For more than 30 years, tourists visited Ross Allen's Reptile Institute in Silver Springs, which was prominently featured in newspapers, magazines and television shows. Allen's adventures with diamondbacks and alligators were featured in several books and movies.

By 1940, Allen estimated that he had "milked" 40,000 poisonous snakes of their venom, which was sold to pharmaceutical firms. Most rattlers were converted into leather goods, curios, snake oil and canned meat. In 1948, the Institute bought 8,000 live rattlesnakes and canned 5,000 of them. Live rattlesnakes were sold to zoos, carnivals and circuses, where they served as cheap lures to attract crowds until the reptiles eventually starved to death.

For years, many small towns in the Southeast conducted rattlesnake roundups. Sponsored by local sportsmen's or civic groups, these roundups offered prizes for the largest or most snakes collected. The roundups purportedly performed a public service by eradicating poisonous reptiles and collecting venom for medical and scientific use. Unfortunately, they catered to the public's prejudices and fears and grossly mistreated snakes before killing them for the sale of meat, skins and rattles. A more enlightened attitude now prevails at the few remaining rattlesnake festivals in Florida, which stress wildlife conservation and public education, rather than the collection and exploitation of snakes.

In days past, rattlesnake hunters extended a length of rubber hose into gopher tortoise burrows to listen for the telltale rattle of unseen snakes. If they heard a rattling sound, they poured gasoline down the hose and blew fumes into the burrow, hoping to drive out their quarry. Unfortunately, too much gas asphyxiates the burrow occupants, and even the proper amount of gas apparently kills indigos and pine snakes, even weeks later. Using gasoline or other toxic substances to drive reptiles from their retreats is now illegal in Florida.

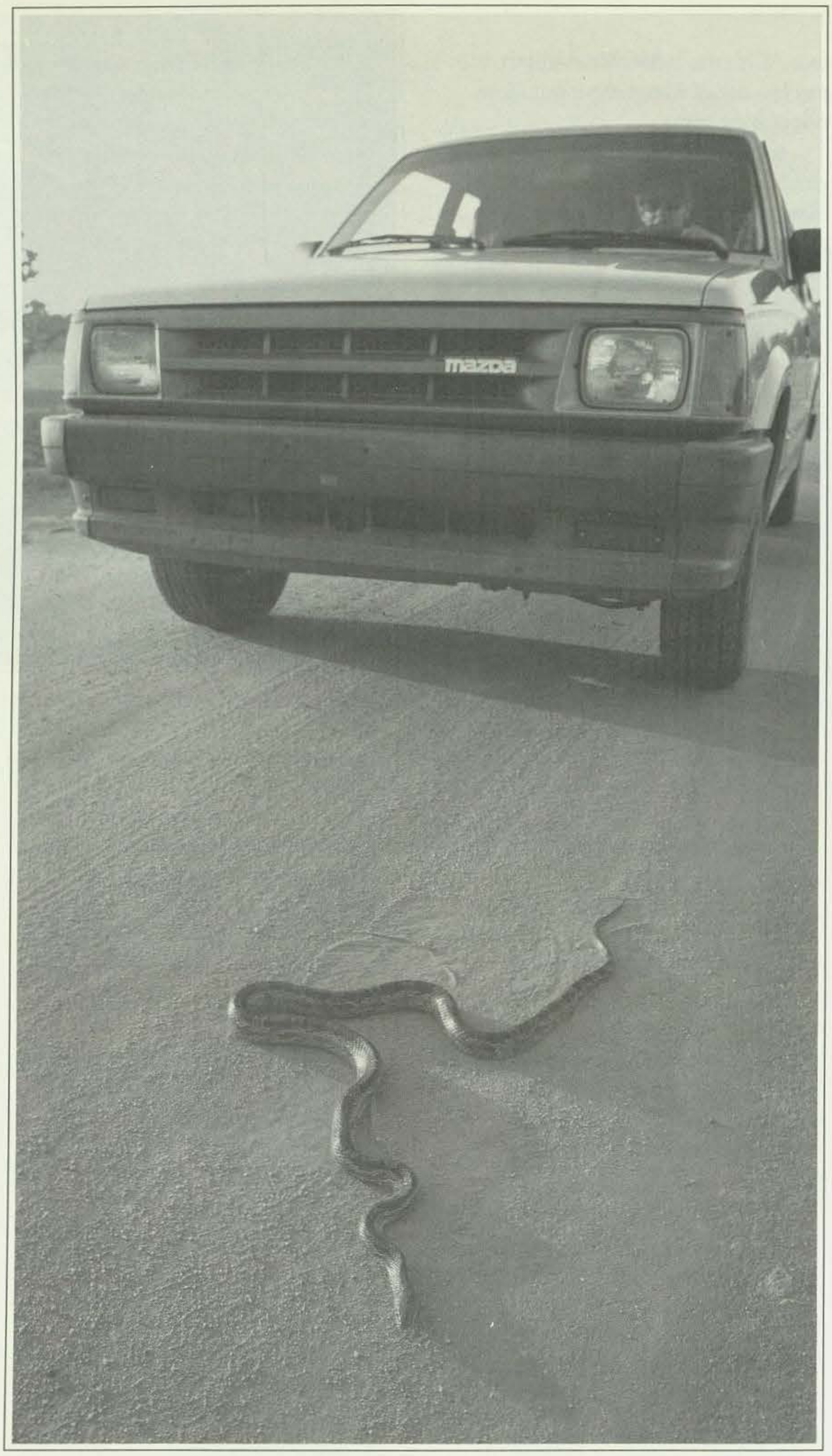
Reasons to Snake Hunt

Sometimes I go snake hunting to justify getting outside and enjoying Florida's fresh air, beautiful scenery and abundant wildlife. However, I'm disappointed if I haven't even seen a snake after a long, hot day of tromping through briars and blackberries. Snake hunting is at least as much exercise as golfing, even more if you try to chase down a racer or coachwhip. Usually I do not see as many snakes as I do other critters. Flipping objects in the pursuit of snakes often yields amphibians, lizards, and a variety of mammals ranging in size from shrews to opossums.

Like some sport fishermen, I don't keep the snakes I catch, unless it is a particularly desirable specimen for breeding. I have no desire to see my catch adorn my wall or belt. Sometimes I am satisfied with just observing or photographing it, undisturbed in its natural habitat.

Photographing snakes can provide a permanent record of your catches without keeping the animals. Getting a snake to pose in a natural position in front of suitable background can be a real challenge. Good snake photographs require proper equipment and extreme patience. Some snakes are uncooperative and constantly move or try to bury their heads in the ground. Sometimes, batting a snake lightly on the head will cause it to become defensive and provide excellent poses of a coiled snake ready to strike. Cooling a snake for a few minutes in the refrigerator (don't freeze it) will slow it down, making it easier to control. Sometimes you can induce a snake to coil and stay still by placing an upside-down bowl over it and then suddenly removing it.

When photographing snakes, make sure the eyes are in focus. To get the body in focus, arrange it in a natural pose so most of it is equidistant from the camera lens. Once you become adept at snake photography, you can refine your skills by concentrating on details like the flicking tongue. A macro lens allows you to photograph the whole snake in its habitat, as well as its head, all without having to change lenses or add attachments. I use a 50mm macro lens because I like to work close to the animal. Some people, however, prefer a 100mm macro lens so they don't have to worry about the snake striking their ▷



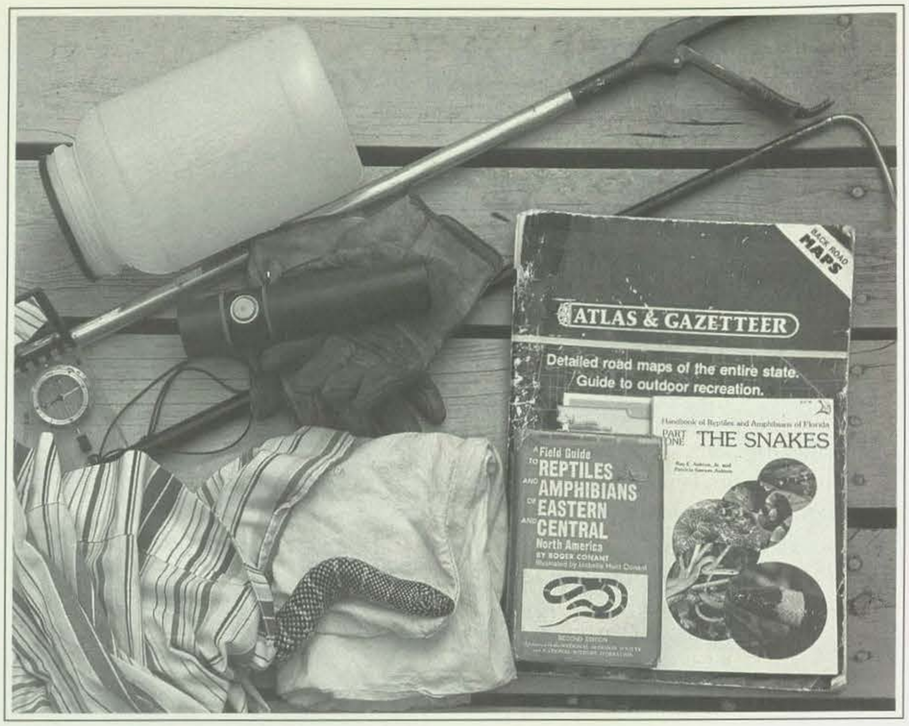
JOHN PALIS

Road-cruising is an easy way to look for snakes.

face. With the longer focal length, you run less risk of disturbing it but more risk of it escaping.

Consider attempting to photograph all the species and subspecies of Florida snakes. Finding some of the more elusive species will be a monumental undertaking. Some of the real prizes are south Florida rainbow snakes, mole kingsnakes and short-tailed snakes. A useful publication for keeping track of your progress is "A Checklist of Florida's Amphibians and Reptiles" by Paul Moler, available free of charge by writing the Nongame Wildlife Program, in care of the Commission.

Some people hunt snakes for pets or breeding stock, while others hunt snakes for monetary gain. Unless you are very good at snake hunting, don't expect to make much money at it. Before you can legally sell a live reptile, you must obtain a license from the Commission to possess wildlife for exhibition or public sale.


BACK ROAD MAPS
ATLAS & GAZETTEER
Detailed road maps of the entire state.
Guide to outdoor recreation.
Handbook of Reptiles and Amphibians of Florida
PART ONE THE SNAKES
A Field Guide to REPTILES AND AMPHIBIANS OF EASTERN AND CENTRAL North America
BY ROGER CONANT
SECOND EDITION

Snake hunters don't require a lot of elaborate equipment. KEVIN ENGE

Snake Hunting Equipment

You may want to invest in a snake hook, handy for lifting objects from the ground without bending over, as well as ripping apart trash piles and catching poisonous snakes. A snake hook can be as simple as a hoe without the blade, or it may be more elaborate and a lot more expensive. A typical hook consists of a short length of curved metal rod attached to a golf club shaft.

If you don't have a hook, grasp the snake gently in the middle of its body with a pair of Pilstrom tongs. This tool consists of a grip that can be squeezed to operate pincers at the end of the shaft. Take care when using tongs or when pinning a snake with a hook in order not to injure the animal, especially the head and neck region. Do not use a catch pole with a loop on the end to catch snakes.

Wearing a supple leather glove on at least one hand can minimize the trauma of grabbing blackberries, rusty nails or broken glass — not to mention a snake that may try to bite. If you don't want a snake to bite you, don't try to pick it up.

I've never worn snake leggings but I've heard they're awkward and tiresome. I can't afford "snakeproof" boots, so I just wear a normal pair of ankle-high leather boots if I have to walk through densely vegetated areas.

Take along a bag or other container for holding captured snakes. A pillowcase or handmade cloth bag of durable, finely woven material works well. The best snake bags are constructed of parachute silk double-stitched with nylon thread, because they are rip-resistant, translucent (allowing you to see the snake through the material) and easily knotted and unknotted.

The most important snake hunting equipment is a field guide. Before snake hunting in Florida, you must learn to recognize our six species of poisonous snakes. If you have any question about the identity of a snake, don't pick it up! Our state has over seven times more harmless snake species than venomous ones. There are several good field guides for identifying snakes in Florida. I highly recommend "Handbook of Reptiles and Amphibians of Florida, Part One: The Snakes," which is lavishly illustrated. Good field guides that encompass all reptiles and amphibians over a broader geographic area are "The Peterson Field Guide to Reptiles and Amphibians of Eastern and Central North America" and "The Audubon Society Field Guide to North American Reptiles and Amphibians." Examine each before deciding which one best suits your purposes.

Recording field observations on snakes (e.g. locality data, cover preferences, behavior, time of day, weather conditions) in a notebook can provide you with a valuable source of information and entertainment.

State Regulations

Before you go snake hunting, you should be familiar with regulations relating to snakes.

The eastern indigo and Atlantic salt marsh snakes are listed as threatened species by both the federal and state governments. Taking, possessing, transporting or selling them in Florida is prohibited without permits from both the U.S. Fish and Wildlife Service and the Florida Game and Fresh Water Fish Commission. State protection is given to short-tailed, Key ringneck, and Miami black-headed (rim rock crowned) snakes along with populations of red rat, Florida brown and peninsula ribbon snakes in the lower Florida Keys. These cannot be taken, possessed, transported or sold in Florida without a permit from the Commission. State permits for these animals are issued only for scientific or conservation purposes when the activity won't have a negative impact on the survival potential of the species.

The Florida pine snake is a species of special concern and can't be bought or sold in Florida, but one animal may be possessed per person.

Anyone wishing to sell snakes in Florida must obtain an annual license for commercialization of wildlife from the Commission. The cost for this license is $5 to sell up to 10 animals in a year and $25 to sell more than 10 animals in a year. Anyone selling or buying live native amphibians and reptiles for resale and anyone buying carcasses or parts for resale must report their transactions quarterly to the Commission.

Those who want to keep a venomous snake must have a venomous reptile permit, which costs $5 per year and requires a completed affidavit signed by a notary public.

It's illegal to hunt snakes on the following lands: 1) state parks, preserves and recreation areas; 2) national parks and monuments; 3) bird sanctuaries, unless specifically authorized; 4) critical wildlife areas during the designated period of no disturbance.

It's legal to hunt snakes in our three national forests. It's illegal, however, to sell snakes captured there, since you would be making a profit from the federal government without reimbursement. Before hunting a state wildlife management area, check the area's regulations. Before hunting private property, especially posted or fenced land, get permission from the owner.

It's legal to collect snakes from roads. But if you do so at night, remember that it's illegal to display or use a light while possessing a gun at night. As mentioned earlier, it's illegal to gas burrows or other retreats in an attempt to drive out reptiles.

Where and How to Find Snakes

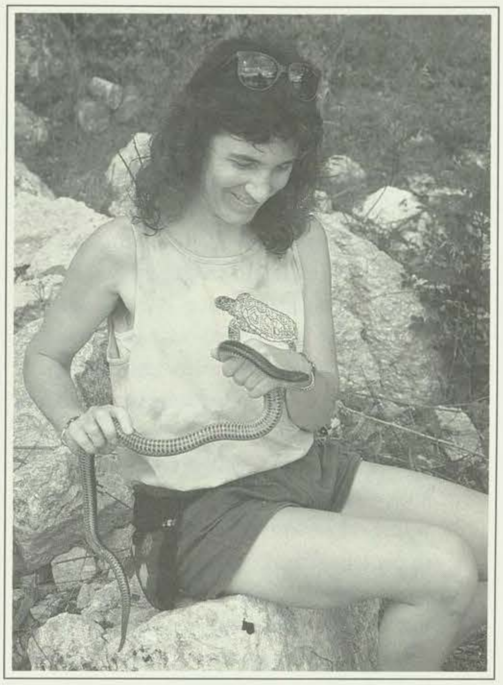
Productive snake hunting in Florida entails knowing where to look for snakes in particular habitats during different times of the year. Occasionally you can find aggregations of snakes. Your chances of finding more desirable species are greater if the area has been burned recently, clearing away obstructing vegetation. Recent burns are irresistible to diamondback rattlesnake hunters who don't mind getting blackened by charcoal bushes.

Listen while walking, because a snake probably will detect you and flee before you spot it. With a little practice, you can differentiate between the sustained rustle a crawling snake makes and the sounds of other wildlife moving. Listen for scolding birds, especially jays, who may be mobbing a snake instead of an owl. Distress calls of small mammals and frogs sometimes mean they have been grabbed by a snake.

The most productive habitats to hunt for snakes are often agricultural land, cut-over areas and wetlands (particularly ones with dikes or canals). Some of the best agricultural areas are abandoned citrus groves and farms surrounded by woods, overgrown fields and truck-farming operations where there are canals, equipment sheds and pockets of natural habitat. Areas in a forest that tend to concentrate snakes are brush or log piles, fallen trees (especially wind-thrown trees with exposed roots), holes in the ground and margins of fields or wetlands.

Recently, wildlife officers have been cracking down on environmental ▷

If you have any question about the identity of a snake, don't pick it up. This woman is holding a harmless rainbow snake.



JOHN PALIS

W.B. LOVE

Equipment sheds, barns or old houses are likely spots to find snakes.

law violators who blemish natural habitats with illegal dumps or deposit construction debris in vacant lots. Such areas, however, can be snake gold mines. If you plan to hunt for snakes there, be sure your vehicle is free of trash so you are not mistaken for an illegal dumper.

Other microhabitats that shelter snakes are fallen billboards, sheds and barns, old houses, old bridges, under bark on dead pines and burrows. These microhabitats are most productive during certain seasons, times of the day and weather conditions. While hunting for snakes try not to destroy their cover. Be careful to replace objects lying on the ground in the exact position you found them, so the microenvironment that has developed remains suitable for future occupants.

Although natural cover tends to be less productive than manmade cover, you still can find snakes by turning logs, ripping bark off of fallen logs and stumps and searching hollow trees and tree cavities. Sometimes you will find small snakes by sifting through rotten logs, detritus and leaf litter with a potato rake. If you have a better eye for spotting snakes than I do, you can find rat snakes by looking up into live oaks, cabbage palms and Australian pines.

Gopher tortoise burrows are good places to find indigos, Florida pine snakes and diamondbacks. During cooler parts of the day or year, you may spot these species basking near, or in the mouth of, gopher tortoise holes or crawling around in the sunlight. However, during hotter periods they spend most of their time underground or under cover. Rattlesnake hunters often use a mirror to reflect a ray of light into the dark mouth of a gopher tortoise burrow to see who's home. Gopher tortoise burrows, which average about 15 feet long and 6 feet deep, are used by at least 10 other snake species. These burrows are extremely valuable to snakes and many other animals because they serve as refuges from cold, heat, fire and desiccation. They also are productive places to hunt food and convenient hideouts to escape large predators or get ready to shed their skin.

Mammals that construct burrows used by some snakes include nine-banded armadillos, southeastern pocket gophers, eastern moles and oldfield and Florida mice. These mouse burrows are 3-4 feet long, and one researcher found numerous corn snakes, pine snakes, coachwhips and pygmy rattlesnakes using them. Cavities in the root systems of large hardwood trees and burned-out pine stump holes serve similar purposes.

You can catch water snakes and an occasional rat snake from a boat after spotting them in bushes, on limbs or around roots. Capture water snakes that are basking in the sun, or after they have dropped into the water, if you don't mind getting bitten repeatedly. While paddling one night along a canal in the Everglades, Ross Allen and a companion caught 350 cottonmouths by using headlamps.

By walking dikes, road shoulders or railroad tracks that traverse wetlands, you can capture a variety of semi-aquatic snakes and even some terrestrial ones. In the summer, walking these areas can be very productive at night. Before about 10 a.m. on sunny days, snakes often bask on dikes and canal banks. Flipping old railroad ties is a good method for hunting a variety of terrestrial snakes along abandoned railroad rights-of-way.

More Floridians die from insect bites than snake bites.

The most productive area of the state to catch Florida kingsnakes is south and west of Lake Okeechobee in the muck farms. An exceptional early spring day of walking canal banks in sugar cane fields can produce 20 or more kingsnakes. Some knowledgeable and tireless individuals can make a living by snake hunting in south Florida, where massive manmade disruptions of natural ecosystems have created favorable conditions for high rodent populations and the snakes that feed on them. Before hunting these cane fields you must obtain permission. Other types of agricultural land can be productive, if there is an interspersion of cultivated fields and remnants of natural habitat, especially in early successional stages (grass, weeds, brush). The trend toward "clean farming" spells doom for many wildlife species in agricultural areas because of the elimination of brushy areas and fencerows.

Special circumstances sometimes produce lucrative collecting conditions for astute hunters. Flooding often forces snakes to isolated areas of high ground or up into bushes and trees. Sometimes water flowing through culverts results in log jams or whirlpools of flotsam that trap small snakes. Other incidental snake traps are swimming pools, open wells, pits and ditches.

The lazy man's way of snake hunting is to drive roads looking for snakes — road-cruising. The best road-cruising is done at night during the warmer months, when snakes are actively crawling around. Peak snake movement often occurs from one-half hour before sunset to one hour afterwards.

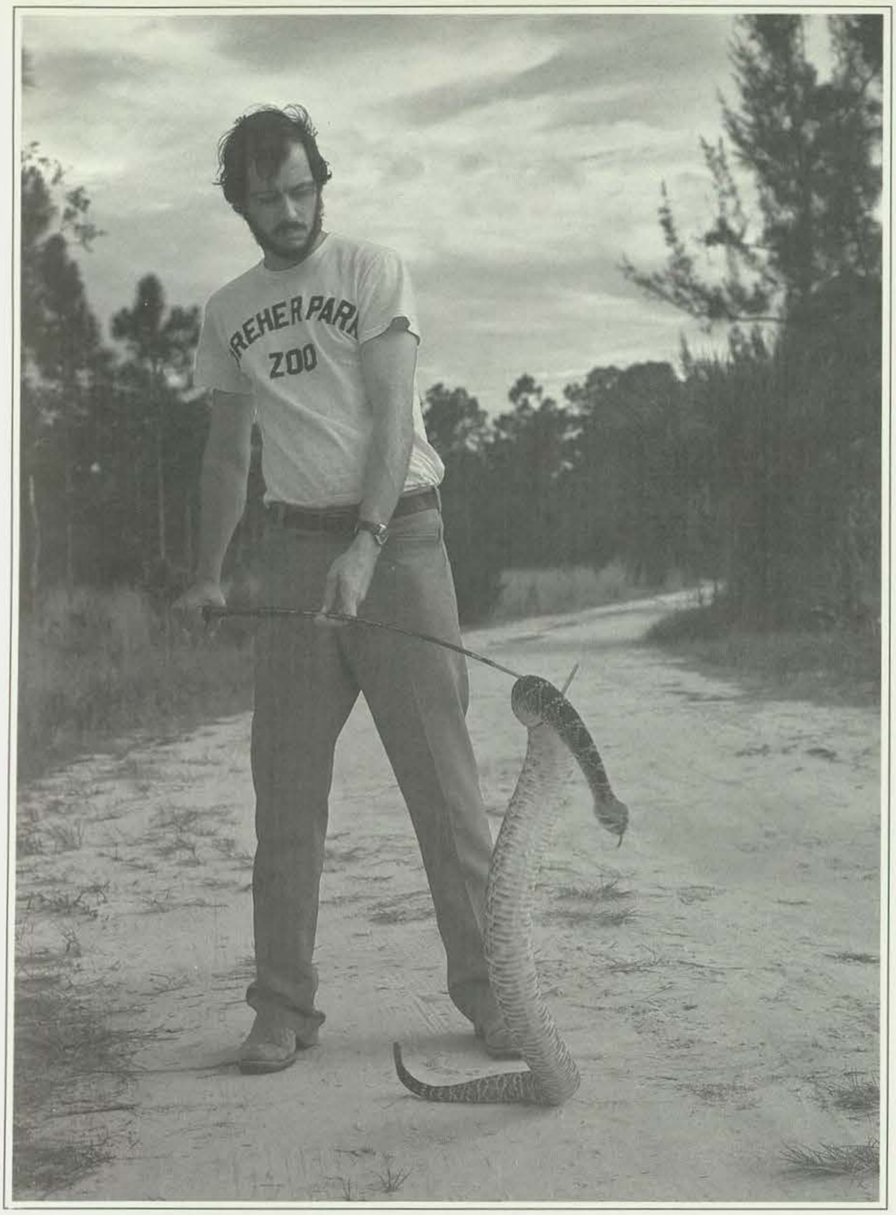
Some nights are much more productive than others, although conditions may appear identical. Many road-cruisers attribute their success, or lack thereof, to such things as the phase of the moon, barometric pressure, rainfall patterns, temperature, wind, etc. I attribute road-cruising success to being in the right place at the right time. Before road-cruising, make sure you don't have a weapon in your vehicle or you may be arrested for suspicion of night-hunting for deer!

One way researchers sample terrestrial ecosystems for reptiles and amphibians is to employ drift fences, which divert moving animals into either pitfall or funnel traps. Most snakes are caught this way from April through October.

What About Poisonous Snakes?

Of Florida's 44 native species of snakes, only six are poisonous: the eastern coral snake, the Florida cottonmouth (water moccasin), the southern copperhead (restricted to six counties in the panhandle), the dusky pygmy rattlesnake (ground rattler), the timber (canebrake) rattlesnake and the eastern diamondback rattlesnake.

The diamondback rattlesnake is considered the most dangerous snake in North America, due primarily to the large quantity of highly toxic venom it is capable of injecting in a bite. Because of its large size and speed and agility at striking, only experienced individuals with the proper equipment and the re-



The diamondback rattlesnake is considered the most dangerous snake in North America.

W.B. LOVE

quired permit should catch and keep this species. You should learn to identify the poisonous snakes of Florida, especially if you're interested in snake hunting or other outdoor activities.

The majority of poisonous snake bites are "illegitimate," which means they result from the victim deliberately coming into contact with the snake. These bites occur while handling a captive snake or trying to catch, kill or skin a wild snake. Since snakes are usually not aggressive (though some have impressive threat displays when disturbed), a snake you can see has no chance of biting you if left alone. So it's best to walk around it carefully at a safe distance. A coiled snake can strike about two-thirds of its body length.

While conducting a radio-tracking study on diamondback rattlesnakes in north-central Florida, biologist Walt Timmerman made 743 visits to locate his transmittered snakes. In only nine instances did the snakes rattle, and none of them struck despite his accidentally stepping very close to or over the top of them.

Statistics of reported snakebites often vary widely. Approximately 6,000-7,000 snakebites occur in the United States annually (mostly in the Southwest), but only about a dozen people die from them. According to Florida Department of Health and Rehabilitative Services statistics, an average of one person per year is killed by snakebite in Florida. Studies have shown that 25-50 percent of bites inflicted by poisonous snakes are "dry" — no venom is injected. More people in Florida die from insect bites or lightning strikes than from snakebites.

To avoid poisonous snakes, walk forcefully while in snake habitat. Snakes will be more likely to detect the vibrations of your footsteps and get out of your way. Look where you're going and don't blindly step over logs or into depressions. Try to avoid crashing through thick cover where you can't see your feet and avoid reaching blindly around an object or into a hole.

I have no quarrel with the homeowner who kills a rattlesnake in his yard that he perceives as a threat to his family or pet. However, I have little tolerance for the person who intentionally runs over a snake or shoots one while deer or quail hunting. The fact that a snake is poisonous doesn't mean it should automatically be eliminated. A poisonous snake away from human habitation poses very little threat to people, and it has a role in nature's scheme as surely as bunnies and bluebirds. I don't expect everyone to share my liking and enthusiasm for snakes. All I hope for is that more people will learn to tolerate snakes and pass this attitude on to their children.

Get immediate medical attention if you are bitten by a poisonous snake. If you are not within reasonable distance of help, remember that a snakebite kit is your worst enemy. Do not cut the wound and attempt to suck out the venom or apply a tourniquet, especially not a tight one, because you're liable to do more harm than good. In order to avoid spreading the venom rapidly through your system, stay calm, avoid unnecessary physical exertion, immobilize the area of the bite with a splint, and avoid drinking any beverage that stimulates your heartbeat (coffee, tea, alcohol, etc.).

Try to identify the snake, but don't risk getting bitten again. Your primary objective should be to get to the nearest hospital emergency room. While being transported to the hospital, treat yourself for shock by lying down with your head lower than your body and keeping covered and warm. Once at the hospital, make sure they test to see if you are allergic to the serum that is used in the ▷

antivenin. Unproven treatments, such as administration of a high-voltage shock to the area of the bite, should not be attempted.

The Abundance of Snakes in Florida

Florida has more species of reptiles and amphibians than any other state — 139 native species and approximately 27 introduced species. Snake hunters often regard Florida as a paradise because of our warm climate that allows year-round hunting and the large number of interesting and colorful species that make desirable pets.

In the late 1930s, Carl Kauffeld, a famous snake hunter, wrote of seeing at least 20 kingsnakes and a dozen mud snakes one morning along the shoulder of U.S. 441 where it crosses Payne's Prairie, a large freshwater marsh south of Gainesville. Along the road shoulder, he found snakes under almost every hay mat left behind from mowing operations. Sadly, kingsnakes have virtually disappeared from Payne's Prairie, now a state preserve.

Some statistics from Payne's Prairie illustrate the potential productivity of wetlands. The first paved road was put through the prairie in the mid-1930s, and the roadfill immediately became a favorite place to collect snakes. In the mid-'70s, Dick Franz, a research scientist with the Florida Museum of Natural History, drove 3 km of busy U.S. 441 one night a week for 58 consecutive months. He recorded approximately 13,000 snakes of 12 species, but only one kingsnake. Five species accounted for 95 percent of the sample. Only one of every 17 snakes he observed on the road made it off alive.

Keeping and Breeding Snakes

A surprising number of people keep pet snakes. Before keeping a snake as a pet, make sure the rest of your household agrees with your decision. Then find out the proper caging requirements, food and care for that particular species. Do not get a snake for the purpose of scaring other people.

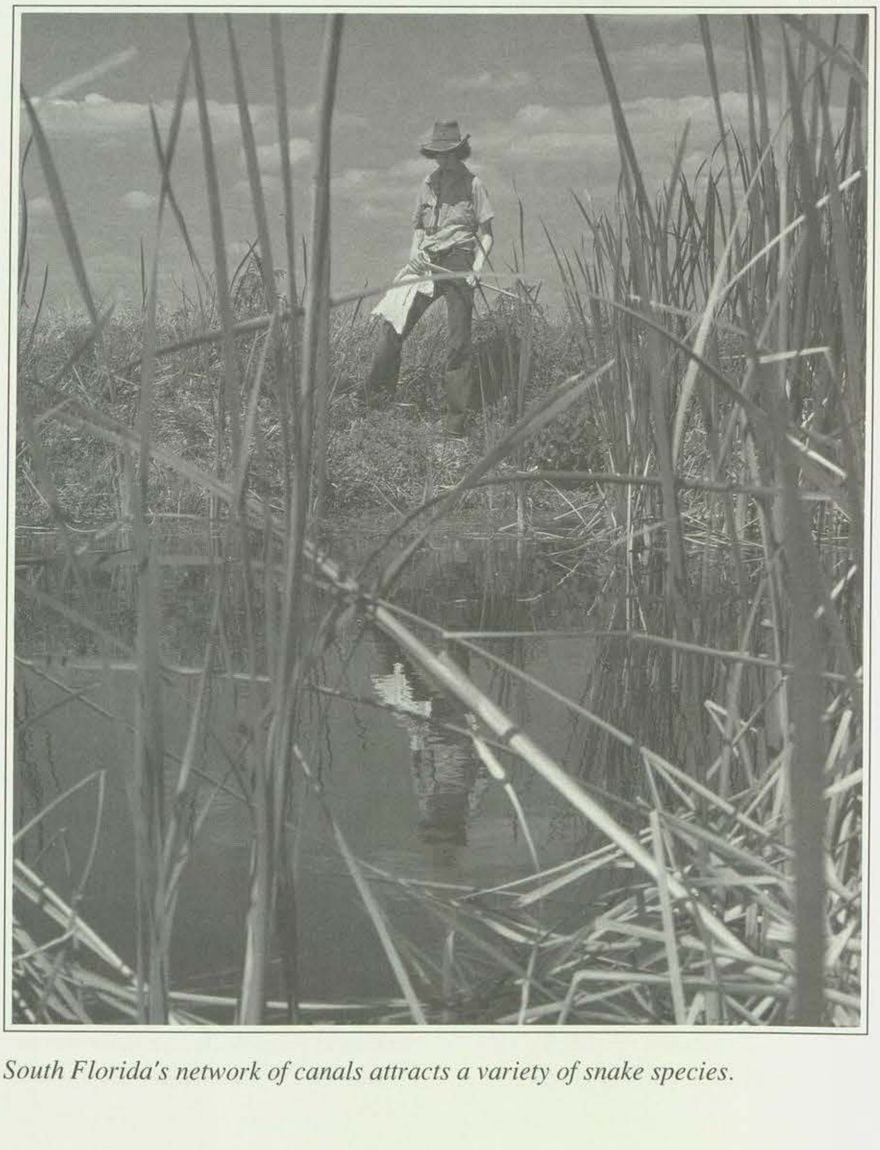
Some advantages of having a snake as a pet are its low maintenance, cleanliness and nonallergenic scales. Snakes require very little room and exercise and can be left alone for a week without any problems as long as water and suitable temperatures are provided. The unique feeding habits of snakes are considered fascinating by some and grotesque by others. Snakes eat other animals — whole. Snakes aren't very bright and don't have scintillating personalities, so don't expect any affection or recognition from your pet snake. The most you can hope for is tolerance.

I hope this article doesn't encourage anyone to go out and collect quantities of snakes. Snake hunting should be practiced in moderation, and only a few specimens should be taken from an area, unless the area is slated for development. Please do not be a slob hunter by indiscriminately catching everything and destroying valuable protective cover in the process. By leaving habitats intact, you not only help preserve our wildlife, but make it possible for yourself or others to have enjoyable experiences at a future date.

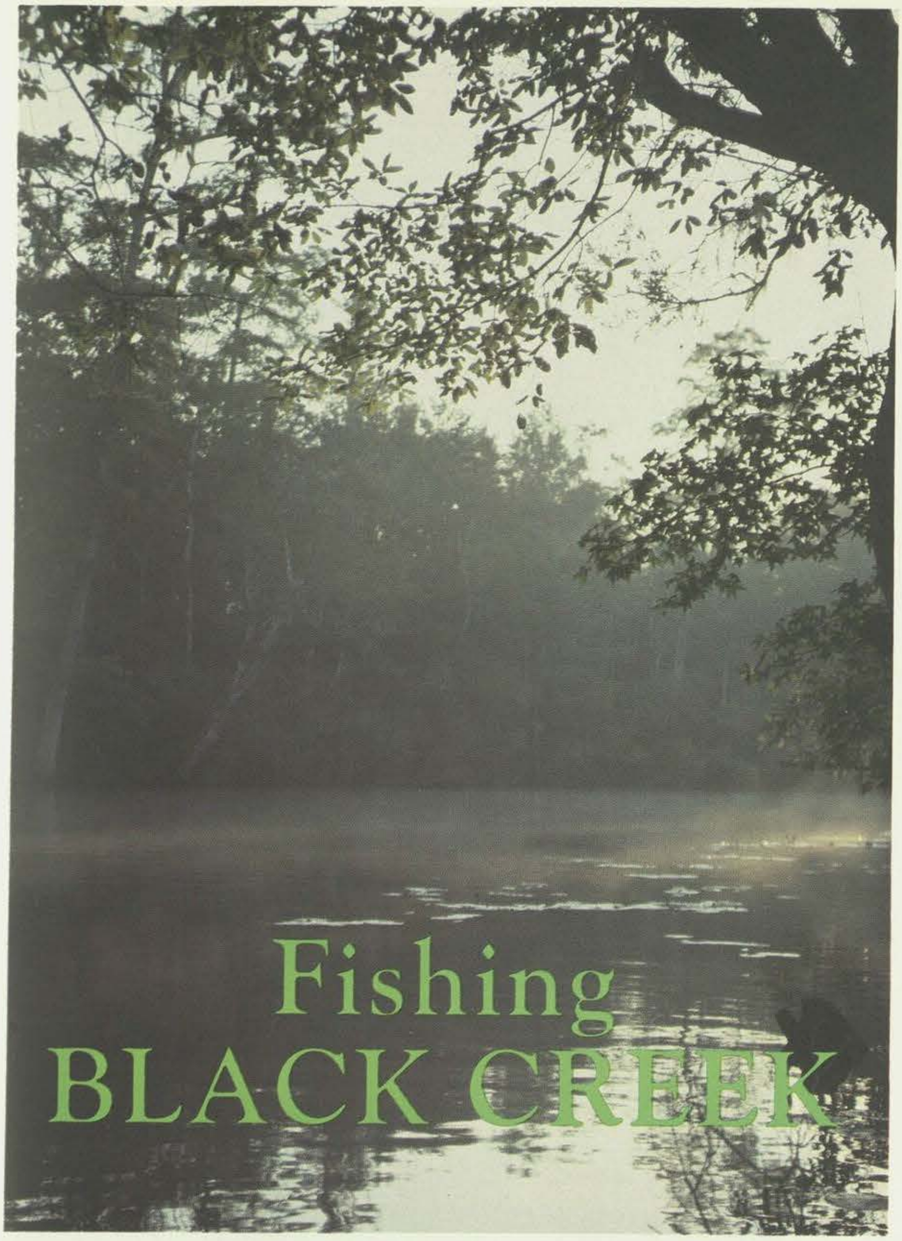
Don't give snake hunters a bad name by trespassing and violating wildlife regulations. You should release snakes or their offspring back into the same habitat and area where they came from, since they are adapted to that particular environment. If your initial attempts at snake hunting aren't productive, don't despair. Keep trying until your luck or skill level changes. And while you're out there, take time to enjoy all of nature, not just the slithery creatures.

Kevin Enge is a biologist with the Commission's Nongame Wildlife Program who collects information on the commercial trade of amphibians and reptiles.

W.B.LOVE

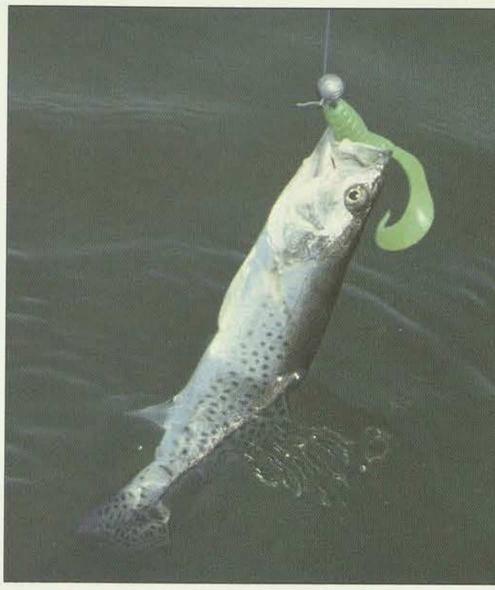


South Florida's network of canals attracts a variety of snake species.



Fishing BLACK CREEK

Text and Photographs by
Vernon Summerlin



Anglers usually seek tranquility and a cooler full of fish when they head for the water. The eastern end of Choctawhatchee Bay is likely to provide you with both. In addition to redfish, speckled trout, bass and bream, you'll find solitude among the moss-draped trees. It's hard to believe these peaceful waters are only minutes away from city life.

The eastern end of the bay is off U.S. 331 in Walton County, between Destin and Panama City Beach, a few miles south of Freeport. Just north of the bay bridge is C.R. 3280; go east for one and a half miles, turn south and follow the signs to Black Creek Lodge.

I became enchanted with Black Creek, a feeder stream to the bay, during a visit to the lodge several years ago. When my opportunity to fish the creek came, I loaded my canoe with fishing gear, cameras and a handful of maps, ready for a Florida adventure.

The river was quiet and hazy in the rising sun when I slipped my canoe into Black Creek. I was entering this environment for the first time, not knowing what to expect. The slight current carried the canoe downstream near wading birds that waited patiently for breakfast to swim by.

The stealth of a canoe allows its paddler to ease along, quietly observing wildlife that motorboats scare off. I paddled within camera range of an alligator without disturbing it. I felt no threat, but was so excited that I didn't close my camera after reloading. After about 15 frames I noticed the back was not shut; meanwhile the gator swam into the dense grass. Trying to photograph it at close range was quite a thrill for this Tennessee highlander.

Truett Senterfitt, owner of Black Creek Lodge, had given me directions to the back side of Opossum Island where the shellcrackers and bluegills were reputed to grow bigger than my hand. I glided along, casting at fishy-looking spots, when one of those hand-size shellcrackers tried to take my rod away. This 'cracker came out of its hiding place to hit a 1/32-ounce jig wearing a light yellow curlytail. It made the drag on my ultralight rod sing. A blue heron clamored nearby and disappeared over the trees, squawking as it flew. That ruckus induced a shot of adrenalin and I was fully alert.

I tightened the drag and played the shellcracker away from the bank to reduce the likelihood of getting hung in the submerged limbs where the fish had been hiding. After subduing it, I took advantage of the photo opportunity, then released the colorful fish.

The shellcracker gets its name from grinding small snails and shellfish in its throat. It's also known as the redear ▷

sunfish because of the red-to-orange margin around its black gill flap. The shellcracker's range is from southern Indiana to Texas and across most of the Southeast. Merritt's Mill Pond, near Marianna, yielded the world record shellcracker of 4 pounds, 13¾ ounces. More difficult to catch than its sunfish cousins, the fish puts up a rod-bending fight.

Next I caught several redfish within a stone's throw of Black Creek Lodge, then a bass and more bream — all from the same clear, green water. Because of the water's clarity, I needed to cast my jig farther and let it sink two to three feet before retrieving. This technique was responsible for bringing more fish to the boat, mostly stumpknockers, shellcrackers and bluegills, which I released.

I didn't land the one big Florida bass that took my jig. Four-pound test line just won't pull a 6-pound fish through the limbs of a downed tree. Besides being a big bass, it was a river fish, and they fight harder than the lake bass I'm used to.

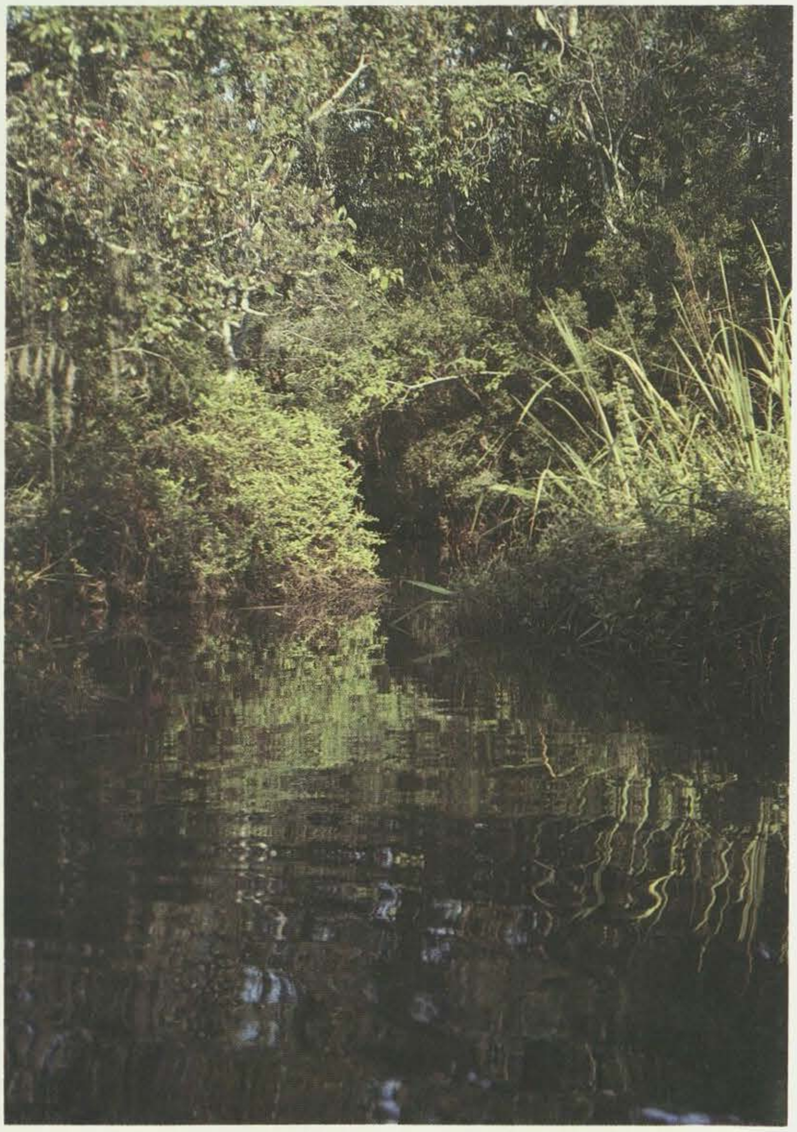
Rushing Cutoff is a branch of Black Creek that connects with Mitchell River to form Opossum Island. This water has the reputation for the largest bream in the area. I didn't hear a single angler say they were trying to catch bass there; most came for the big bream.

I caught several more bass, but not in the class of the one I lost. They hit popping bugs, jigs and crankbaits. Bass were feeding where the bottom was soft and the bank was grassy and usually near the mouths of the many small feeder creeks.

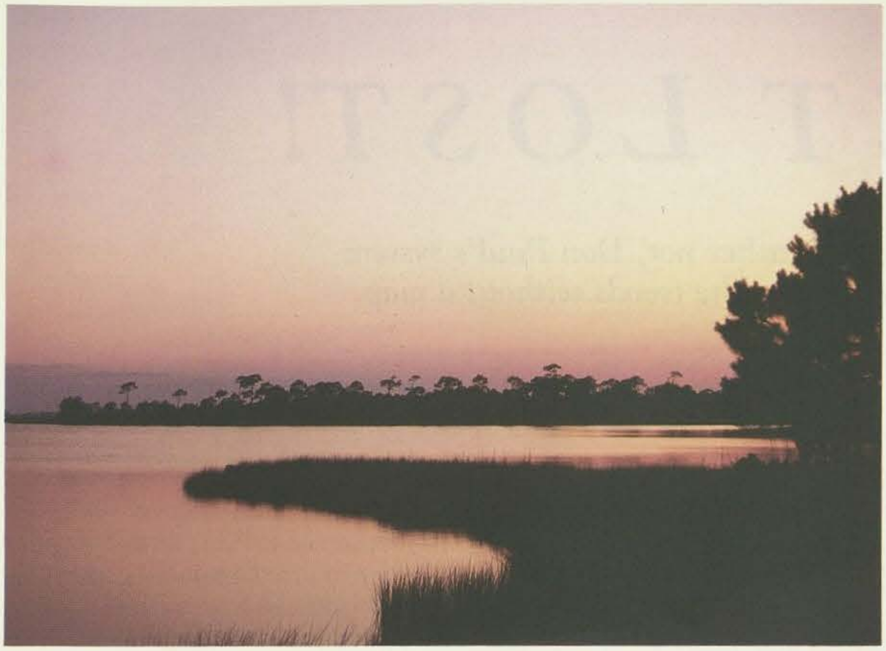
Choctawhatchee Bay is downstream from the junction of Black Creek and Mitchell River. I drifted with the current to the mouth where I was hoping to catch speckled trout, redfish and flounder. I caught only speckled trout.

I came upon a school of minnows

The bluegill behind Opossum Island grow as big as your hand.



Feeder streams like this empty into Choctawatchee Bay in northwest Florida.



The eastern end of Choctawhatchee Bay is a plentiful source of beauty and tranquility in addition to fish.

The mouth of Black Creek yields both freshwater and saltwater species, including this redfish.

being harassed by larger fish, just what the doctor ordered for good fishing. But before I could get within casting distance, they submerged. The 17-foot canoe probably looked like a huge predator to them.

To remedy this problem, I began trolling a jig about 50 feet behind the canoe. The speckled trout liked that technique and so did I. Trolling at a brisk paddle stroke proved to be most productive, since the speed kept the lure near the surface.

Night was coming fast and so were the fish, but I quit when the light became too dim to take pictures. Now I faced two miles of paddling up a dark creek under a new moon.

Less than a mile upstream, I met a gentleman from Louisiana putting out trotlines for catfish. He offered me a tow back to Black Creek Lodge, and I accepted his kind offer, knowing it was a sacrifice for him to stop fishing and haul another craft back to the dock.

The day was done. Back at the dock I sat in my canoe pondering the allure of Black Creek. Ospreys gliding and diving, the shy alligator touring the stream, Spanish moss sweeping back and forth in the breeze from tall cypress trees, sounds of cicada and frogs and the musty scent of fertile water make for lasting memories.

Although you can enjoy yourself on a one-day outing, you'd shortchange yourself if you didn't stay longer. As you change directions on the zig-zagging stream, the morning sun seems to stay overhead in the trees all day. You hardly notice that noon has come and gone. But all too soon, it's time to find your way back to the dock.

Vernon Summerlin teaches at Columbia State Community College in Franklin, Tenn. His book, "Two Dozen Fishing Holes, A Guide to Middle Tennessee," will be published this spring.

GET LOST!

But, if you'd rather not, Don Paul's system lets you wander the woods without a map.

By Scott Ball

Which would you rather be: up the creek without a paddle or in the woods without a map? Don Paul has devised a way to help you survive the latter. He might know how to deal with the former, too, but let's not worry about that right now.

Paul is a former Green Beret who has written five outdoor-oriented books. One, "The Green Beret's Compass Course — The New Way to Stay Found (Not Lost) Anywhere," touts a navigational system that enables you to zig and zag across unfamiliar territory, then make a beeline back to your starting point — without a map.

Although not map-dependent, the system does require a compass, watch or other timepiece, pencil and either a note pad or photocopy of the chart included in the book. A sharp knife to cut small sticks would be helpful, but is not mandatory.

True to his military background, Paul used an acronym to name his system, although he did manage to personalize it. He calls it the "PAUL" system, which translates to "Positive Azimuth, Uniform Layout." By Positive Azimuth, he means read the compass and follow the azimuth (compass reading or heading) indicated; you don't have to calculate true north vs. magnetic north. Uniform Layout means converting units of time into length. Obviously, you sometimes have to be creative to make an acronym from your name. It's a good thing his name isn't McGillicuddy.

Here's how the PAUL system works. As you start your trek, record your azimuth and starting time. When you change direction, note the new starting time and azimuth. Repeat this process for every turn, and keep track of any rest periods should you stop during a leg. The book explains how to compensate for inclines or varied travel speeds when filling out your chart.

The beauty of the system comes into play when it's time to head back. Using your compass readings and elapsed times in each direction, you will create a diagram that reconstructs a scale model of your route. This will enable you to plot the shortest course back to your starting point and calculate how long it will take to get there.

> **While not on the same level as bungee-cord jumping, navigating without a map is a challenge nonetheless.**

Let's say the first leg of your trip took 12 minutes at 120 degrees. You will create a line on the ground to represent this. Either use a length of stick, draw it, or mark a starting and stopping point on the ground. But you must use a uniform unit of measure to represent the 12 minutes. Suppose you use a nice, straight stick that's 2 feet long. Your scale will be "1 foot equals six minutes." It's okay if the stick isn't *exactly* 2 feet long, but all your other stick-measurements must be to the same proportions. That is, if your next leg is four minutes long, the stick should be one-third the length of the first one.

If you don't have an available supply of straight sticks, let the length or width of your shoe represent a unit of time — say 1 shoe length equals four minutes. Your first line would be 3 shoe lengths; your second line would be 1 shoe length. Either draw lines or mark your starting and stopping points to represent this, but do so in the compass directions in which you traveled.

Do this for every leg of your journey. At your stopping point, make a straight line back to your starting point. That's your beeline home. Note the azimuth and measure the distance between the two points. Using your established distance/time scale, it's easy to calculate how long your trip home should take.

We need to challenge ourselves once in a while to make life exciting. While not on the same level as sky diving or bungee-cord jumping, navigating without a map is challenging nonetheless. Besides, I needed a good excuse to get out of the office. Testing the PAUL system would be a good way to do both.

I'm no fool, and I'm certainly no Daniel Boone. I wasn't about to go tramping out into some strange patch of woods on my maiden voyage with PAUL. The author doesn't recommend this either. The book suggests, and I concurred, that first-timers test it on a short journey across a large, open area. For simplicity's sake, I wanted a level field, so I could walk at a steady pace and not have to calculate inclines or any other variables.

I went to a city park one Monday morning, parked my car and prepared for my shakedown cruise. Paul recommends a simple course the first time around: walk for equal distances and make nothing but 90-degree turns — make a perfect square.

Starting from my car, I headed off with an azimuth of 294 degrees for three minutes. I wanted to walk a bigger square, but the tennis courts got in the way. I made a 90-degree turn and walked another three minutes at 24 degrees, then another three minutes at 114 degrees. Following the compass reading was easy on an open field. Other than the tennis courts, the only obstacles in my path were deposited by dogs.

I really didn't need to draw a diagram to find my car, but my mission was to test the PAUL system. Using the length of my foot to represent one minute, I stepped off three minutes of distance at 294 degrees. I planted a stick in the ground to mark my turning point and stepped off a three-minute line at 24 degrees, then another at 114 degrees. If I had measured and stepped precisely, my beeline would have been at 204 degrees for three minutes, and my diagram would be a perfect square. But I wasn't working at a desk with precise drawing instruments; I was using dirt, shoes and sticks. The bearing toward my starting point read 214 degrees, and my first square was a bit skewed.

I tried it again and ended up with a better square. The only trouble was my beeline would take me through an impenetrable thicket, and I couldn't see my car through it to know if my course was true. There are ways to go around such obstacles and get back on course, but I wasn't up for advanced techniques just yet.

I returned to my car and tried again, this time heading in a different direction. I walked four minutes at 30 degrees, then four at 300. My next leg was at 210 degrees, but I had to shorten it to two minutes to avoid irritating some tennis players. I stopped and drew my diagram. My beeline should be at 150 degrees for five minutes. I looked through my compass and sure enough, there was my car, right at 150 degrees. ▷

GFC

With only a compass and notes to guide him, the author used the PAUL system to avoid getting lost.

It only took four and one half minutes to get there, but the principle worked!

Pumped up with confidence, I was ready to take off the training wheels. I headed for the Ochlockonee River Wildlife Management Area to give PAUL a real test.

I drove around looking for a likely starting place before parking at a clearing alongside a dirt road. Beyond the clearing was a thick patch of woods — lots of small trees, vines and briars. This would be no walk in the park, although I did take slight consolation in the fact that I was less likely to encounter "doggie deposits."

When navigating by compass in strange territory, it's wise to find a landmark that lines up to your azimuth, walk to it, look for another, and so on. The only trouble was, there were few distinguishing landmarks. All the trees were about the same size. I'd pick one out and head for it. But I'd have to watch my step once in a while, and when I looked back up, I couldn't tell "my" tree from the others. For that reason I didn't risk going too far in any direction.

After making four turns and traveling anywhere from two to seven minutes per leg, I stopped to plot my course home. I was in strange country and couldn't see my car, so I took great pains to draw accurate lines according to the compass readings in my notes. My beeline home should be at 94 degrees and take seven minutes. After five minutes of walking over, under and around branches, vines and other obstacles, I reached the dirt road and saw my car about 30 yards to the left. I was glad to see it, but attributed my missing the mark to the "sloppy square syndrome" I had experienced earlier in the park. I repeated the exercise in another stand of woods — this time with better results.

I had learned a lesson covered in the book: Under wilderness conditions, don't expect to return precisely to your home base. I'd found that as long as I was careful, the system would lead me to within a reasonable distance of my starting point so I could see my camp, car or whatever.

I was somewhat impressed. If my sole purpose for being in the woods was to follow my compass and find my way back, the PAUL system worked. But what if I was hunting, hiking or birding? How could I concentrate on tracking a deer, enjoy the scenery or listen and watch for a hooded warbler if I was busy trying to follow a compass heading and keep notes on every turn I made and how long I went in that direction?

At work the next day I described the PAUL system and my outing to Capt. Ed Tyer, hunter education coordinator for the Game and Fresh Water Fish Commission. The Commission's hunter education course covers how to stay oriented in the woods, and Tyer could provide an expert opinion on the usefulness of PAUL. "It sounds like a logical system, but who wants to take detailed notes about every turn and time period when he's stalking a deer through the woods?" Tyer wondered. "I have enough to deal with when I'm hunting without a pencil and paper in my hands." I had a feeling he'd say something like that.

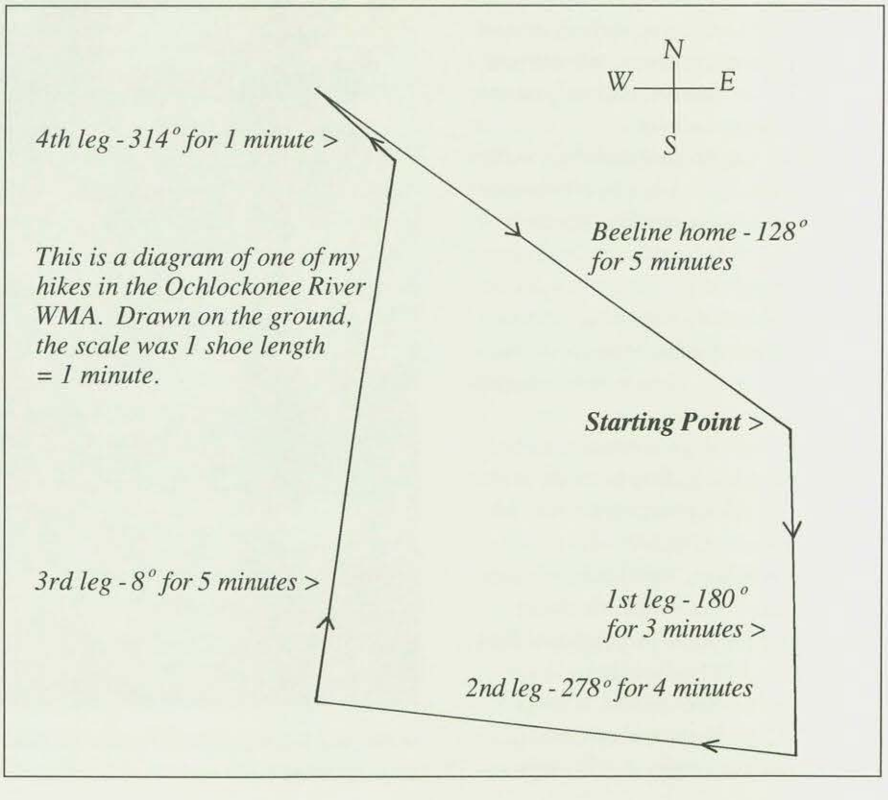
He said the system is a good exercise in becoming familiar with a compass; it teaches you to rely on your compass instead of your instincts to find your way around. Indeed, before I plotted my first beeline back to my car in the woods, I was sure I was facing south, but the compass said I was looking to the east. It's easy to get disoriented in the woods — even when you think you're not.

A simpler way to use a compass without a map, according to Tyer, is first to know the direction in which you depart from a road or trail. Most wilderness roads in Florida are laid out in a grid pattern. In that case, you can hunt, tromp, trek and track all you want, and if you haven't crossed back over the road, you'll know which way to head back when you're ready to return.

But if you're willing to take detailed notes of your journey, PAUL is a good way to get you back to your starting point quickly.

There's more to this book than just the PAUL system, such as how two vehicles can rendezvous in the middle of nowhere without using maps. Other chapters explain terrain analysis, military applications and how to "stay found" in a strange city. Paul explains in the introduction that this is a "read-what-you-need book." He also has written other books such as "24 Ways To Use Your Hammock In The Woods," "Everybody's Knife Bible" and "Great Livin' In Grubby Times." All are available from Path Finder Publications 150 Hamakua #401, Kailua, Hawaii 96734.

Without compass or map, Scott Ball manages to find his way to work as FLORIDA WILDLIFE's assistant editor.


N
W
E
S
4th leg - 314° for 1 minute >
Beeline home - 128° for 5 minutes
Starting Point >
1st leg - 180° for 3 minutes >
2nd leg - 278° for 4 minutes
3rd leg - 8° for 5 minutes >

This is a diagram of one of my hikes in the Ochlockonee River WMA. Drawn on the ground, the scale was 1 shoe length = 1 minute.

Audubon's Journey Through Florida

By Lt. Jim Huffstodt

160 years ago this renowned painter and ornithologist sought new species in Florida.

John James Audubon was a man drawn to wild and lonely places. Inspired by the American frontier, he was determined to capture on canvas the beauty of its bird life. He brought to that task stamina, intelligence, keen powers of observation and a passion for accuracy.

Audubon was born in 1785 on the island of Santo Domingo, the illegitimate son of a French naval officer, plantation owner and sometime slave trader. Audubon's mother died six months after the boy's birth. His father sent the youngster to Nantes, France, where he lived with family until he was 18 years old. The artist fled to the United States in 1803 to escape conscription into Napoleon's army.

He came to Florida with brushes and easels as well as a shotgun to bag specimens. Accompanying him on his travels were George Lehman and Audubon's dog, Plato. Lehman painted the backgrounds for the birds Audubon depicted in his Florida excursions.

The artist was an incurable romantic, tending to embellish his accounts of adventures in this new country. He cut a dashing figure, accentuated by his shoulder-length hair and square jaw. His blue eyes glittered, giving the appearance of a man of strong opinions. Contemporary accounts describe Audubon as a man of great enthusiasm and boundless energy. His buoyant nature, however, sometimes gave way to despair and depression, or as Audubon described it, "the Blue Devils."

He journeyed through the American wilderness for decades seeking inspiration among the teeming bird life. Paintings, however, were only a part of the Audubon legacy. The young artist also recorded his thoughts and observations in a daily journal that contained descriptive word portraits of the people, places and times.

The young Frenchman was resourceful and supported himself by giving lessons in the French language, dance, painting and fencing. He was given to kissing his female students, but apparently remained faithful to his wife, Lucy, who once said "I have a rival in every bird."

In November 1831, the already-famous artist sailed to Florida aboard the Spark, a U.S. schooner of war. Six years before he arrived in Florida, the artist's fame had been secured with the publishing of his "Birds of America." The work featured 435 fine life-sized engravings on the first double-elephant folio format. Each page was 39 ½ x 26 ½ inches.

Audubon's first weeks near St. Augustine and along the St. Johns River were disappointing. He described the country as "Wretchedly sterile, Sandy and covered with almost impenetrable Spanish Sword plants..."

The local plantation owners opened their homes to the renowned bird artist, and he soon recovered his good spirits. John J. Bulow was a prosperous and wealthy landowner who welcomed Audubon and shared his company in trekking after bird specimens.

"During the whole long stay," Audubon wrote, "there was no abatement of [Bulow's] kindness, or his unremitting efforts to make me comfortable, and to promote my researches."

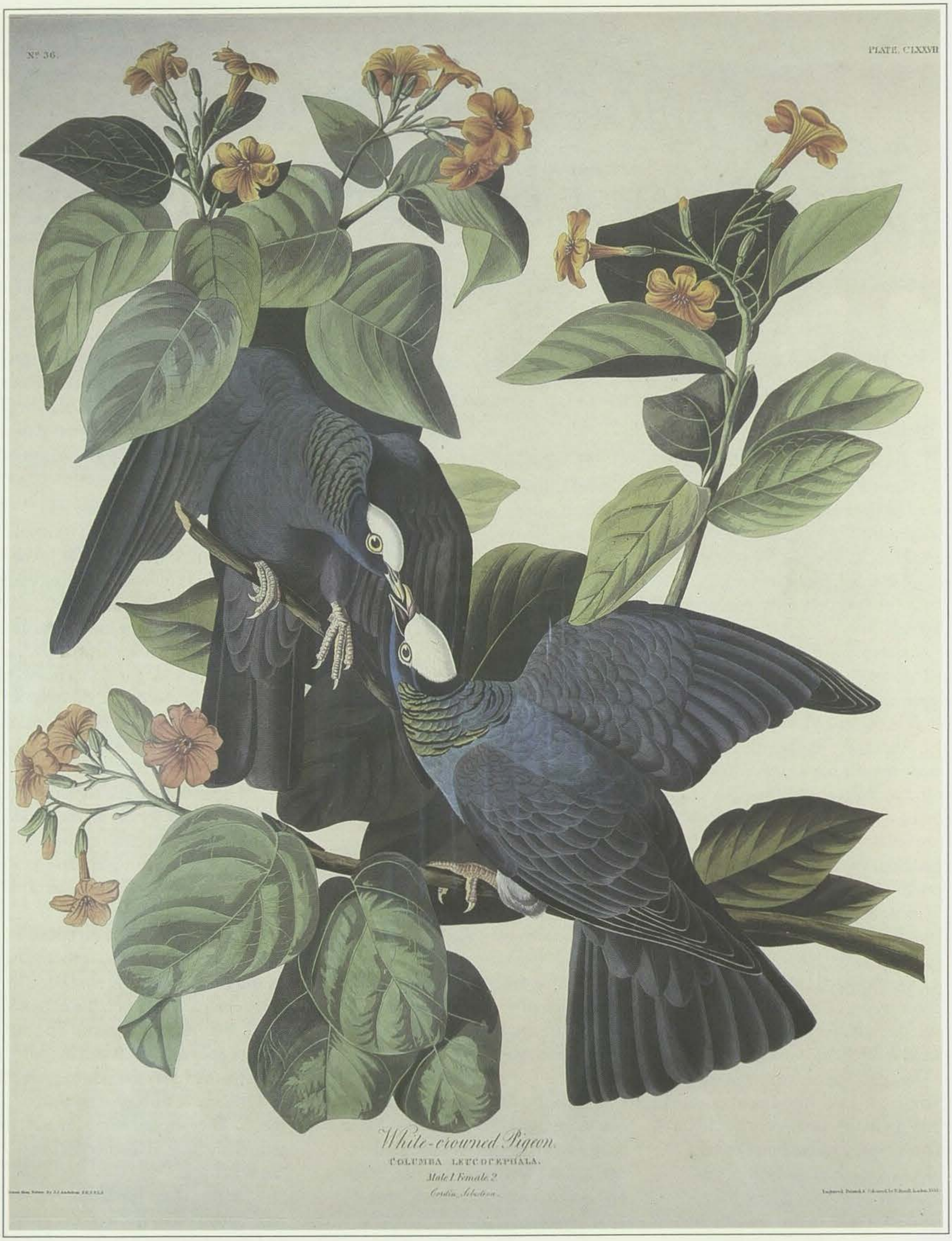
Abundant energy fueled this inquisitive man who would typically rise before dawn, wade through a marsh in search of new specimens, then paint them that evening. Despite this breakneck pace, he still took time to confide in his daily journal.

"I have been in the regular habit of writing down every day all the incidents of which I have been an eyewitness on the spot, and without confiding to my memory, as many travellers had done and still do," Audubon wrote.

The Florida wilderness tested a man. Once Audubon was proceeding up the Halifax River by rowboat with three companions when the outgoing tide left them hard aground. The men made a poor night of it and in the morning, slid over the side to push and pull their craft through a saltwater marsh. They slipped along through the mire that clung to their boots like "heavy chains."

Despite these hardships, Audubon was captivated by the territory's diverse and abundant bird population. He was particularly interested in the wood stork, a homely bird whose sky ballet entranced the young artist.

Now in large circles they seem to ascend toward the upper regions of the atmo- ▷



No 36.
PLATE CLXXVII
White-crowned Pigeon.
COLUMBA LEUCOCEPHALA.
Male 1 Female 2
Cordia Sebestena.

These white-crowned pigeons perched in a Geiger tree in the gardens of what is now called Audubon House.

sphere; now they pitch towards the earth; and again, gently rising they renew their gyrations...the most beautiful evolutions that can well be conceived.

After his adventures in north Florida, Audubon boarded the U.S. revenue cutter Marion. The ship's captain was under orders to provide safe passage for the artist to Key West and ultimately the Dry Tortugas. On his 47th birthday, April 26, 1832, Audubon landed at Indian Key.

Just before sunset on May 5, the Marion dropped anchor in Key West harbor. Audubon soon made the acquaintance of the settlement's prominent inhabitants. Dr. Benjamin Strobel, an Army physician, quickly came under the ebullient visitor's spell.

"It is impossible to associate with him without catching some portion of his spirit..." Strobel wrote. "Every one appears to enlist at once in his service."

These feelings were shared by Maj. James Glassel, who commanded a small U.S. Army garrison at the isolated settlement. He assigned a certain Sgt. Sykes to serve as a guide.

With Sgt. Sykes, Audubon plunged into the interior of Key West and the surrounding islands. They fought swarming mosquitoes, prickly cactus and soaring temperatures. Yet the artist was undaunted. This was the wilderness beauty he had been seeking. Sykes is credited with finding the elusive Key West quail dove for Audubon to paint.

"The country itself was new; it was what my mind had a thousand times conceived a tropical scene to be," Audubon wrote. "As I walked over many plants, curious and highly interesting to me, my sensations were joyous in the highest degree..."

Audubon came to know Capt. John H. Geiger, a harbor pilot and a master "wrecker." The latter trade was quite lucrative in the 1830s, when storm winds drove sailing ships onto sharp reefs hidden just below the water's surface. The wreckers boarded the distressed and sinking vessels and claimed the cargo as salvage.

Geiger's white, three-story clapboard house still stands at the corner of Whitehead and Greene streets. It was renamed The Audubon House when the Mitchell Wolfson family restored the historic home and gardens. The home is now a museum in cooperation with the Florida Audubon Society.

Audubon selected a limb from a flowering *Cordia sebestena* tree in Geiger's garden to serve as the background for his rendering of white-crowned pigeons. Audubon wrote of seeing two of these flowering trees on Geiger's property, but nowhere else in Key West. The trees later came to be called "Geiger trees" for the captain who brought them from the West Indies.

Newspaper accounts indicate that Audubon spent his sojourn at Key West aboard the Marion. He had promised his wife he'd sleep on board due to the prevalence of yellow fever ashore.

Letters document that Audubon explored Ballast Key and Woman Key in his never-ending search for new bird specimens. He later wrote of his tramps into the lush surroundings hampered by "a burning sun over my head and my body oozing at every pore."

Audubon's frantic pace sometimes meant rising at 4 a.m. and going on excursions that might not end until long after nightfall.

Audubon was enchanted. He rhapsodized about the color of the surrounding ocean, which he described as a "curious light pea-green." He hunted shorebirds along the broad beaches, won many friends with his frank and open manner, and generally enjoyed himself in this exotic environment.

The Marion next set sail for the fabled Tortugas, 70 miles southwest of Key West.

The artist stood on deck, gazed over the far horizon and wrote this account:

Now the light-house lantern appeared, like a bright gem glittering in the rays of the sun. Presently the masts and flags of several wreckers showed us that they were anchored in the small but safe harbor. We sailed on, and our active pilot, who was also the first Lieutenant of the Marion, pointed out to me a small island which he said was at this season the resort of thousands of birds...

Ponce de Leon, the Spanish explorer who searched for the mythical Fountain of Youth, had discovered this place centuries before. He had noted a large nesting colony of sea turtles and christened the isle "Las Tortugas," or island of the turtles.

The abundance of bird life on the Tortugas charmed the artist who observed the frigate birds as they swirled overhead. "Far up into the air," Audubon wrote, "far beyond the reach of man's unaided eye, he soars...in the pure air, but thither can fancy alone follow him. Would that I could accompany him!"

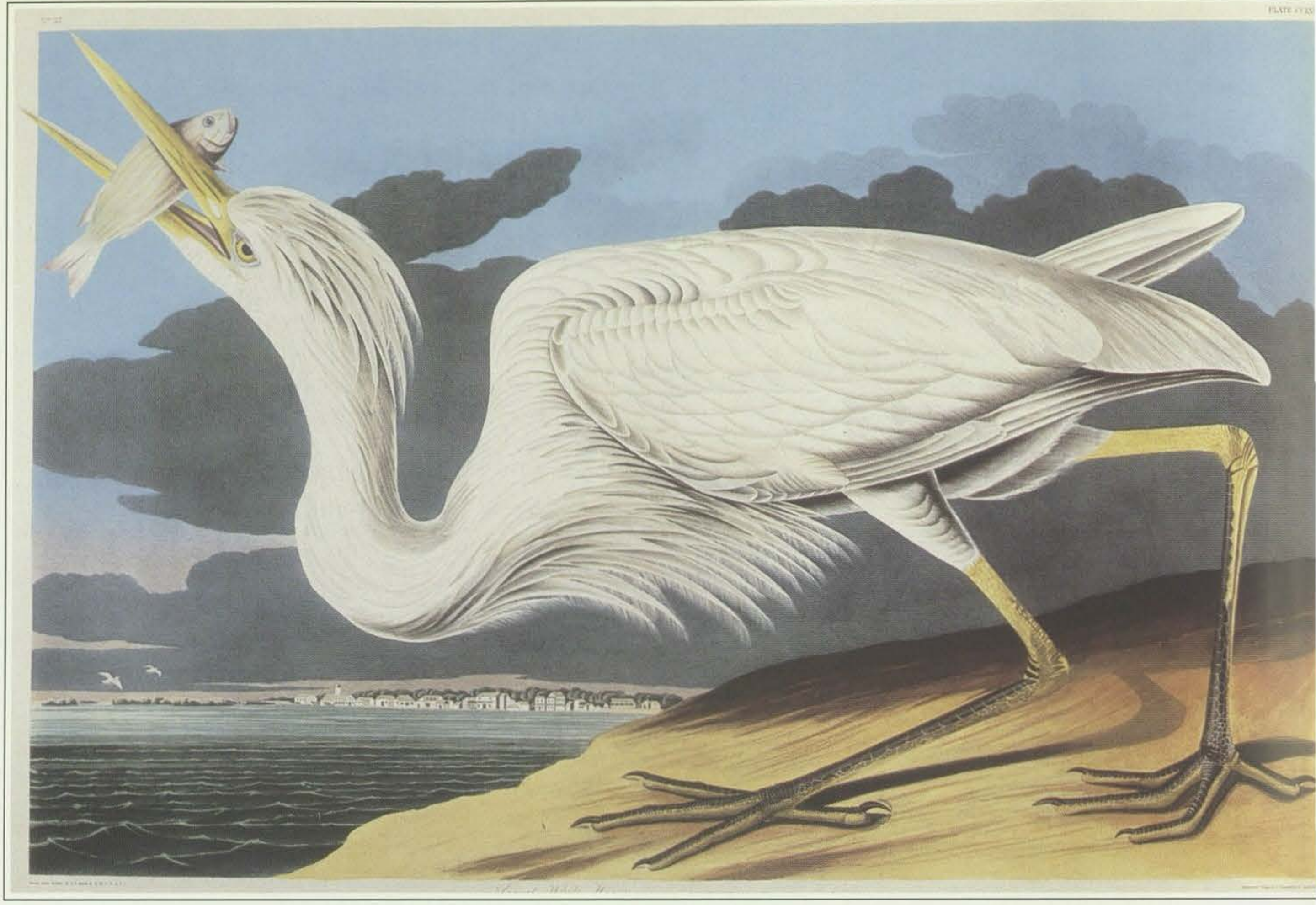
Audubon explored Garden Key, the same place where the Americans would build Ft. Jefferson a decade later. He found the surrounding keys densely populated by both noddy terns and sooty terns.

Always a keen observer, Audubon was captivated by the courtship ritual of the sooty tern:

The male birds frequently threw their heads over their backs as it were...they also swelled out their throats and walked round the females, and ended by uttering a soft puffing sound as they caressed them. Then the pair for a moment or two walked round each other, and at length rose on wing and soon disappeared. Such is one of the many it has been my good fortune to witness.

After his visit to the Tortugas, Audubon returned to Key West on May 18. Three days later, the Marion set sail for Indian Key, which lay about 60 miles north, arriving there for a second visit on May 29. The settlement boasted a boarding house, a field office of the U.S. Customs Service, and was headquarters for several wreckers.

It was here that Audubon met James Egan, who owned the boarding house and shared the artist's enthusiasm and vitality. Egan kept up with Audubon's frantic pace, which sometimes meant rising at 4 a.m. and going on excursions that might not end until long after nightfall. ▷



The Key West of 1832 is in the background of this painting of a great white heron.

The pair used a barge provided by Customs inspector Alfred Thruston. They prowled the Keys and soon encountered a flight of roseate terns. Audubon bagged several and was quite taken by the bird's beauty and distinctive bill.

An elated Audubon would record, "I had my cap filled to the brim with specimens." He marvelled at the richness of bird life — herons, ibis, brown pelicans, gallinules, sea crows, cardinals, pigeons and godwits.

Audubon's Florida is largely gone now. Time has worked dramatic changes during the 160 years since the artist walked the beaches of the Florida Keys. A paved road now runs the length of the Keys. On either side of this concrete ribbon is an almost solid wall of gas stations, motels, private homes, fast food restaurants and parking lots.

Who was this man who came to the Keys so long ago? Michael Harwood, co-author with Mary Durant, addresses the question in "On The Road With John J. Audubon." The book was written in 1980 after the authors re-traced Audubon's journey through the United States.

"Audubon was an artist, not an illustrator, not a camera," Michael Harwood wrote. "Audubon painted birds, to be sure, and he strove to paint them accurately, but in his best paintings his art transcends the birds; they were the matter through which he presented himself and his vision of the world."

Audubon's life was clouded behind a smoke-screen of his exaggeration and sometimes absolute fantasy. His trip to the Florida Keys in 1832 was eventful and colorful, but Audubon later recounted an adventure during a hurricane that never happened.

Still, the facts, as we can ascertain them, tell a tale of high romance and danger for Audubon in America. He travelled by flatboat down the Ohio and Mississippi when river pirates still practiced their bloody trade. He knew the Shawnee and the Mandans, watching the latter tribe as they hunted buffalo on the upper Missouri River. He met and knew Daniel Boone and Sam Houston, and he was witness to the expulsion of the Creeks from their ancient homes as they walked the Trail Of Tears to distant reservations. The energetic artist thought nothing of walking 30 miles in search of specimens, or helping to pole a keelboat against the Mississippi's powerful current.

Audubon held contempt for what he dismissed as "closet naturalists." These predecessors painted from skinned specimens, as did Audubon, but they failed to capture the sense of a bird in flight. Audubon mounted his freshly skinned birds on boards, using wire to shape them into lifelike poses.

Some may be offended by the fact that Audubon used a shotgun to secure specimens. In his defense, let it be said that Audubon was a man of his time and place. Early 19th century America was overflowing with wildlife, and few had the vision to know the day would come when the resource would not be so abundant.

He acknowledged that he was not a formal scholar, but asserted that no one had studied more bird species than he had.

The French immigrant has his critics, then and now. He was an artist who incorporated his obsession with details along with an appreciation for color and form. Don Eckelberry, a modern bird artist, believes Audubon's work has withstood the test of time.

"It is amazing how, in the precise execution of the part, he escaped the common tendency to lose control of the whole," Eckelberry wrote. "We usually see the entire arrangement of an organized picture first and details later. He made the bird part of the picture and subservient to the design..."

Although Audubon worked from posed specimens, he relied heavily on his field observations, which he recorded in bulging journals. One of the first naturalists to observe the natural history of many species, he recorded how a swan sometimes may float with one foot out of the water, or how a pigeon sometimes turns head over heel in its wild, joyous flight.

His observations and opinions were published in a five-volume set titled "Ornithological Biography."

I am aware that no man living knows better than I do the habits of our birds...and with the assistance of my old journals and memorandum books, which were written on the spot, I can at least put down plain truths, which may be useful.

Like many great men, he sometimes sank into despair and depression. He wrote "I...have had the horrors all around me — Dreams of sinking and burning ships at night — fears of lost Drawings & failures of subscribers by day have ever and anon been my companions."

He acknowledged that he was not a formal scholar, but asserted that no one had studied more bird species than he had.

Here was a man who, despite adversity, kept his life compass pointed due north. Even the most skeptical must surrender to the fact that American birding was changed once and forever with Audubon's "Birds of America."

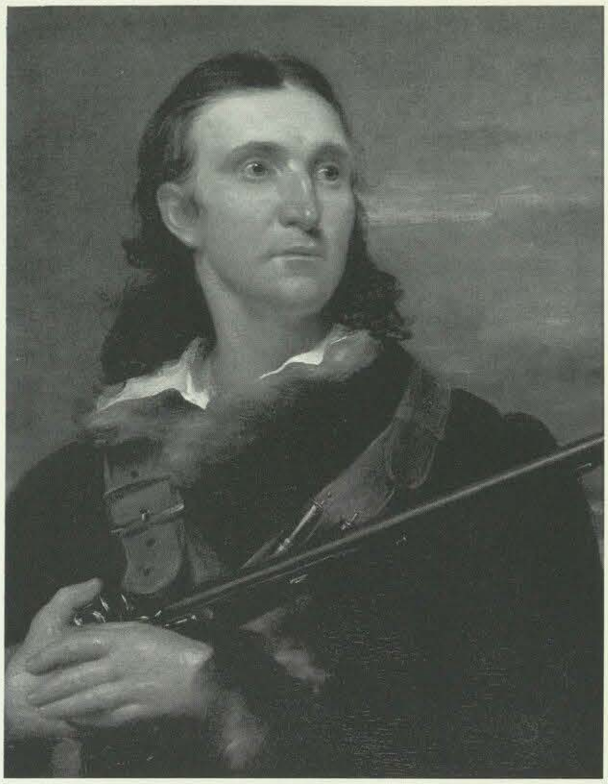
The work was as big and bold as its creator.

Photos courtesy of Audubon House and Gardens, Key West.

[Editor's note: Audubon House, in Key West, is open daily from 9:30 a.m. to 5 p.m.] ▷

Lt Jim Huffstodt is the public information specialist in the Commission's Everglades Region.

While in the Keys, Audubon painted 18 new species, including the roseate spoonbill.



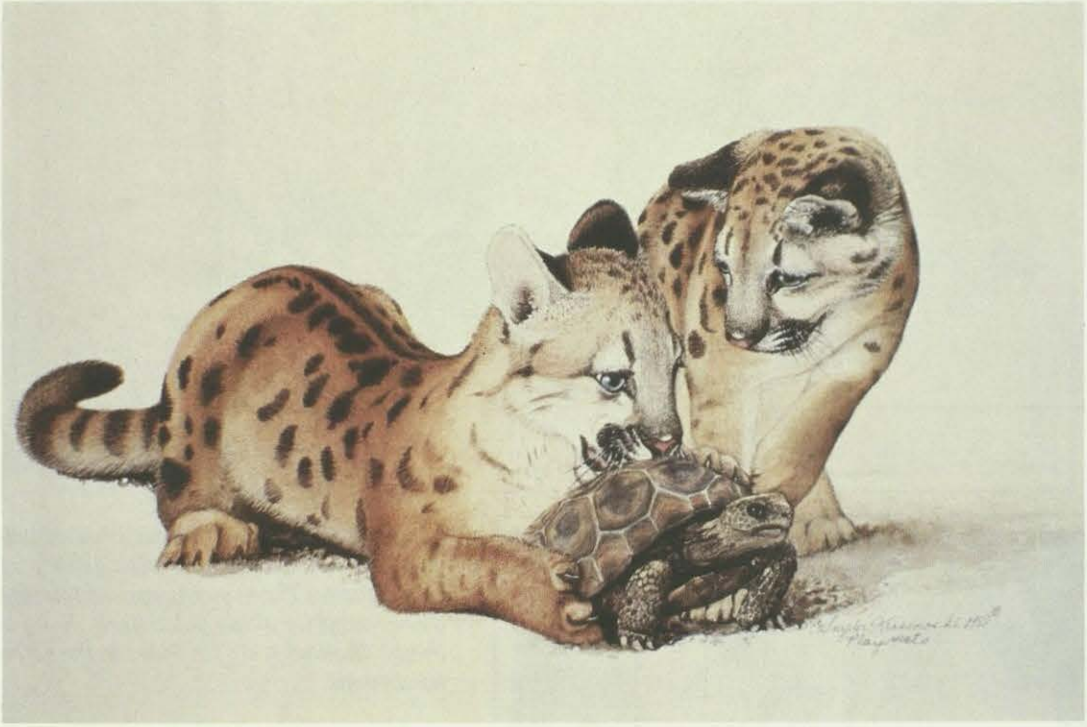
The letters are peppered with exclamations. They are the record of an enthusiast, a man who lurches from boasting to dark self-doubts; a romantic, prey to the extreme weathers of emotion; a lady's man, fond of music and dancing; a showman; a salesman; a doting — if wandering — father and husband. The letters show us, more clearly even than the journals, the impulses that drove him through his long travels and sustained him through his grueling labors: the desire for fame, dread of failure, hunger for knowledge, yearning for approval, the sheer enjoyment of the hunt and the trek and the out-of-doors. The Audubon of the letters is a man obsessed, lured on by the gargantuan enterprise of his science and his art as powerfully as ever Ahab was lured on the whale.

— "Quill Pens" by Scott Russell Sanders, "The Bicentennial of John James Audubon," ed. Alton A. Lindsey. Bloomington: Indiana University Press, 1985.

It has been said that a genius is a man whose profession dies with him. Such a person invents a way of life. Audubon, in his perennial search for new species to paint, original forms and variations to be noted, folios to sell, did live an original life. He invented his own profession. Artist, author, natural historian, entrepreneur — that was an original hybrid. As he sought for new species, society was eventually to discover him. He was the new species on the wilderness frontier. History honors original lives. A name endures. In a commemorative labeling of all sorts, he endures. In the names of living species, streets and towns, societies and wildlife sanctuaries — Audubon has become synonymous with wild birds, wild America, around the world.

— "Confronting the Wilderness" by Robert Owen Petty, "The Bicentennial of John James Audubon," ed. Alton A. Lindsey. Bloomington: Indiana University Press, 1985.

Wildlife Artist Ellen Snyder Krassnoski



A spark of life glimmers in the duckling's eyes. An entranced gallery visitor steps back and smiles, then leans forward for a closer inspection of the lifelike painting. Another potential collector is captivated by Ellen Snyder Krassnoski's wildlife art.

"The eyes are my trademark — I want the animal to say something to the viewer," Krassnoski said of her art. "I talk to them until they talk back. Sometimes I want the animal to tell a story, other times, to express an emotion."

The artist's love of animals really shines through in her watercolor paintings. Her wildlife art is accurate, artistic and *alive!*

Her love of wildlife evolved from her upbringing on a farm in Pennsylvania. As the oldest child, she often found herself helping her father with the farm animals. Her city-slicker-turned-farmer dad was enthusiastic about living in the country, and took time from the chores to share his wildlife observations.

"When a flock of Canada geese flew over, we always stopped to watch," she recalled. "If the hay baler ran over a rabbit's den, I raised the bunnies in my bedroom. And I'll never forget the time a robin nested on top of the diesel pump; we didn't pump any gas until the birds fledged."

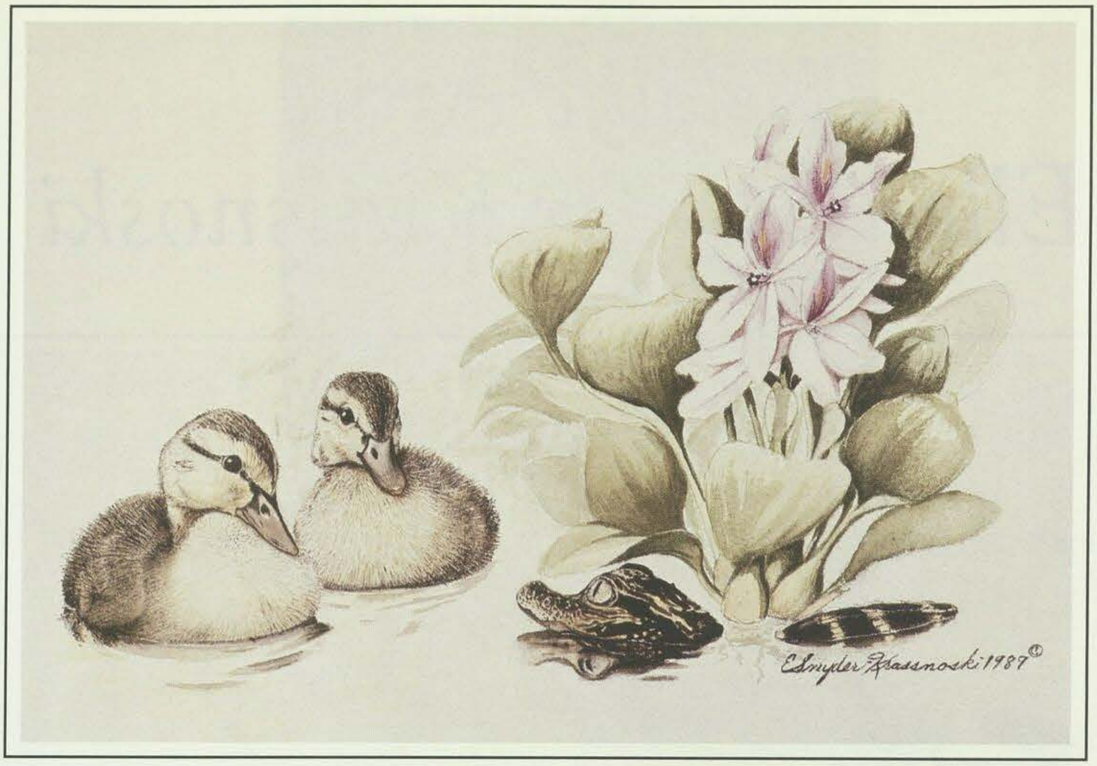
Krassnoski's realistic approach to painting comes from her knowledge of anatomy, which she learned by helping her father skin game animals he hunted. The memory of the fur and feathers stayed with her, but now she often works with wildlife rehabilitation centers for first-hand knowledge of animal behavior and movements. She dubs herself a "hair and feather" artist because her subjects are realistic and natural. This style helped her place second in the state waterfowl competition.

"If I can see it in my mind, I can paint it," she explained. "First, I make a simple sketch. I always concentrate on the eyes. When I do the anatomy research, it's like putting the pieces of a puzzle together. It may involve working with 20-25 photographs for one painting. I may select a foot from one, a head angle from another, and so forth."

She likes to work on rough, 30-pound large-sized watercolor paper. First she applies a thin, even, watercolor wash, detailing the fur and feathers in the dry-brush technique.

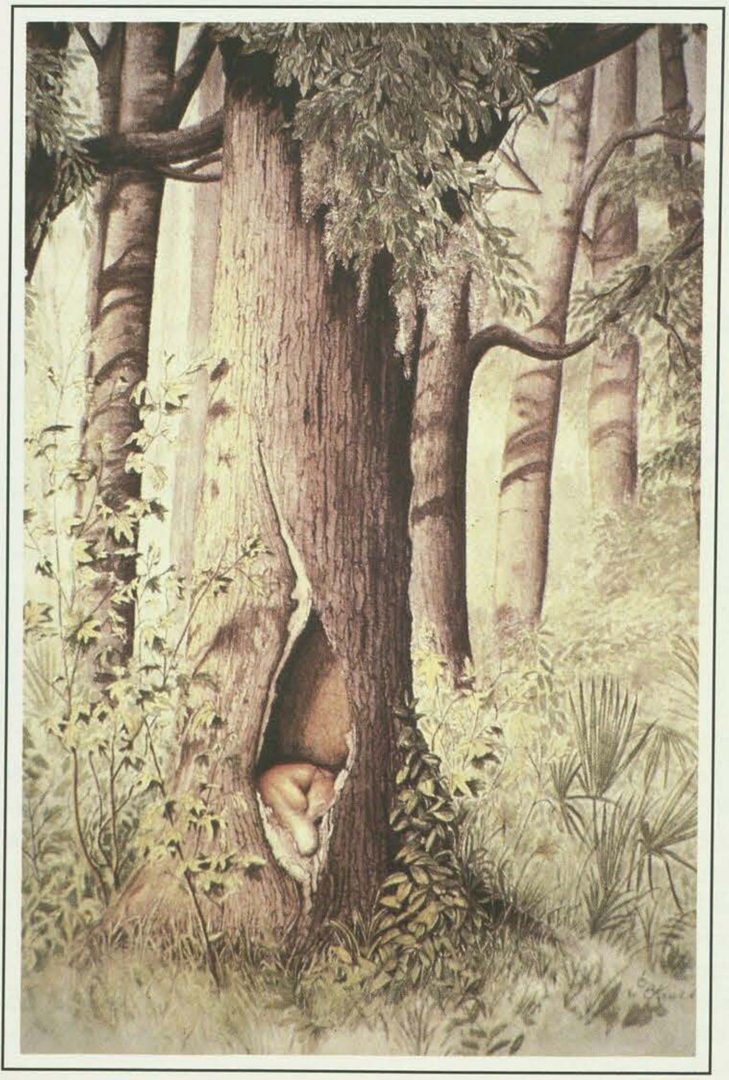
She works long hours painting, primarily commissioned wildlife art for patrons across the nation. When she's not actively painting, she's photographing or sketching for future commissions, often right at home on the family's five acres in Brooksville. And she can't think of anything she'd rather be doing. ▷

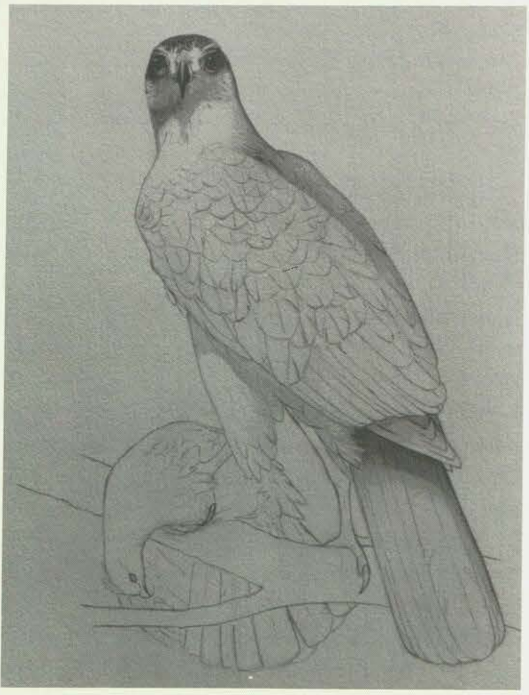
— Andrea H. Blount



The artist captured the insatiable curiosity of two panther cubs interacting with a gopher tortoise (page 21). (Above) These young mallards in search of dinner surprise a tiny gator likely doing the same thing. (Below) A sly fox hides in the safety of the hardwoods.

The goshawk was sketched during an art demonstration.





Ellen Krassnoski took second place in the Commission's recent Turkey Stamp competition. Her award-winning art is often reproduced on note cards and calendars. The fawns pictured above were selected by the Florida Wildlife Federation for their holiday notecards.

Golden Eagle

Little'un Catches Big'un

By Lt. Stan Kirkland

Seven-year-old Michael Ranew of Chattahoochee has caught his share of catfish, shellcrackers and bass. His mother and father started taking him fishing when he was 2, and now the first-grader has entered the record books.

On August 31, 1991, while fishing in the Apalachicola River with his father, Alton, Michael caught the state's first record flathead catfish; it weighed 25 pounds, $7\frac{3}{4}$ ounces. He is the second youngest angler to catch a record fish in Florida.

The story of how Michael caught his "big one" actually began on August 30. That morning he and his dad, a wildlife officer and K-9 handler with the Game and Fresh Water Fish Commission, stopped by a local bait-and-tackle store on their way to the river. On a shelf Michael spied a container of Catfish Charlie, a dough-type bait renowned for its smell.

"I wasn't going to buy the stuff," Alton later explained, "but Michael wanted to try it, so we did."

Their fishing trip was cut short by a thunderstorm, but they returned the next morning, and their persistence paid off.

"We started fishing near the dam about 8 a.m. and didn't do a thing, so we moved down the river roughly a mile or so," Alton said.

They had fished this area before and were familiar with the 10- to 12-foot-deep section of the river channel. Earlier that morning Michael had broken the light line on his spinning reel, so Alton gave his son one of his reels, a Pfleuger 2800 casting reel on a $5\frac{1}{2}$-foot rod and 30-pound test line. Alton took the No. 2 hook and fixed a conglomeration of wigglers and Catfish Charlie. The bait sat on the bottom only a few minutes before the action began.

"When I felt something tugging, I set the hook, but he [catfish] didn't do anything at first," Michael said. "I told Daddy I thought I had a fish, but he thought I was hung."

His dad said it did appear that Michael was hung, but then the catfish took off, and the fight was on.

The big catfish made several good runs, but the battle was brief. When the fish surfaced behind the boat, Alton realized they didn't have a dip net. He knew the only chance to get the catfish in the boat was to get him to shallow water, so he pulled up the anchor, and the boat drifted up next to a sand bar. Inching it closer, Michael got his fish near the boat. Alton leaned over, got his fingers around the fish's gills and in one smooth motion, brought Michael's fish up and into the boat.

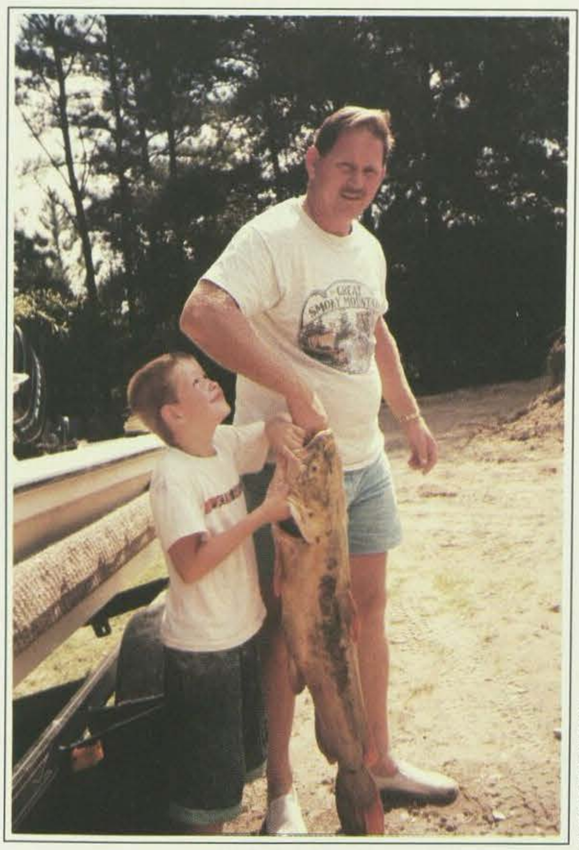
Following the weighing and verification process, Michael became somewhat of a celebrity among his classmates after his picture and story appeared in area newspapers.

Ironically, most Apalachicola River fishermen probably had never heard of a flathead catfish or knew what one looked like 10 years ago. But the fish was quickly populating Georgia's Flint River, which empties into Lake Seminole and the Apalachicola River below the Jim Woodruff Dam. Now, fisheries biologists say flatheads are abundant, if not the predominant catfish species in the Apalachicola and are found in half a dozen other Florida rivers.

It's only a matter of time before Michael's record is surpassed. In their native range of the Mississippi, Missouri and Ohio rivers, flatheads get to weights approaching 100 pounds, and there's no reason to believe they won't get larger in Florida.

Meanwhile, Michael's record fish is at a taxidermy shop and destined for his bedroom wall. The youngster who once caught a 4-pound bass is quick to credit his parents, who taught him all he knows about fishing.

Lt. Stan Kirkland is the public information specialist in the Commission's Northwest Region.



TOM BRODERIDGE

Goatsuckers

By David Norris

The loud, somewhat grating nasal *peent* of a common nighthawk on the wing is a familiar sound of summer evenings in the city. Yet few people know the fascinating bird that makes this call.

The nighthawk is not really a hawk at all, but a member of the goatsucker family. There are eight types of goatsuckers, also called nightjars, in North America. Four of them, the common nighthawk, Antillean nighthawk, whip-poor-will and chuck-will's widow, occur regularly in Florida. Many goatsuckers are named for and easily recognized by their calls. The whip-poor-will and chuck-will's widow are examples, although their calls are often confusing to people.

The common nighthawk of the summer city is also found in open farm country. Chuck-will's widow habitat is pine woods and woodland edges. The elusive whip-poor-will is known to most of us simply as an eery voice in the night woods. And the Antillean nighthawk breeds regularly only in the Florida Keys.

All goatsuckers look remarkably alike. They are small to medium-sized, brownish to brownish-gray birds with flat heads, large dark eyes, tiny bills, bristly gaping mouths, short legs and ample tails. In flight, the common nighthawk is distinguishable from the others by the striking white patches on its long, pointed wings.

Goatsuckers are anatomically similar to owls, and their plumage is similar in appearance and texture. All goatsuckers are well-feathered; a nighthawk, for example, has slightly more than 3,300 feathers. These feathers are vitally important for insulation, protective coloration or courtship displays. Nighthawks have special wing feathers that make a ruffled, rumbling sound when they pull out of a steep dive.

Not much is known about goatsuckers from fossil records, although a few fossils dating back as far as about 37 million years ago have been found. The scientific name for their family is *Caprimulgidae*, from the Latin "caprimulgus," meaning "goat sucker." This misnomer stems from ancient Roman and Greek folk tales. According to legends, these birds descended upon flocks of goats at nightfall to drink milk directly from the goats' udders. It's not too hard to imagine how such tales originated. The secretive habits of these strange, swift, silent-flying birds allowed for great speculation. And their enormous gaping mouths may have looked made-to-order for sucking goat's milk.

In reality, goatsuckers are voracious insect-eaters, regularly casting up pellets composed of the indigestible parts of their prey's hard exoskeleton. Nighthawks are known to catch their flying prey with darting and erratic aerobatics, scooping them up like an aerial vacuum cleaner. Although nighthawks customarily fly and feed at high altitudes, you may occasionally glimpse one on a country road at night with its eyes reflecting blood-red in a car's headlights. They also may hop awkwardly along on their relatively short legs chasing down grasshoppers and crickets, although this foraging method is rare.

Scientists examined the stomach of one nighthawk and found 50 different kinds of insects; another held more than 2,000 flying ants. A third had consumed 34 June bugs, a substantial load for a bird about the size of a robin.

Nighthawks have benefitted from human settlement. The birds are partial to flat, open, rocky or gravelly places, so the pebbled roofs of modern buildings have created a wealth of nighthawk habitat.

Goatsuckers do not make elaborate nests. They may scratch out a slight depression, otherwise they simply lay their eggs, usually two, right on the ground, or in the case of the nighthawk, on the flat roof of a building. In order to compensate for the loss of insulation a nest might provide, birds that do not build nests must spend more time sitting on their clutch to maintain a proper incubation temperature. In the case of the ▷

The common nighthawk is distinguishable by the striking white patches on its wings.

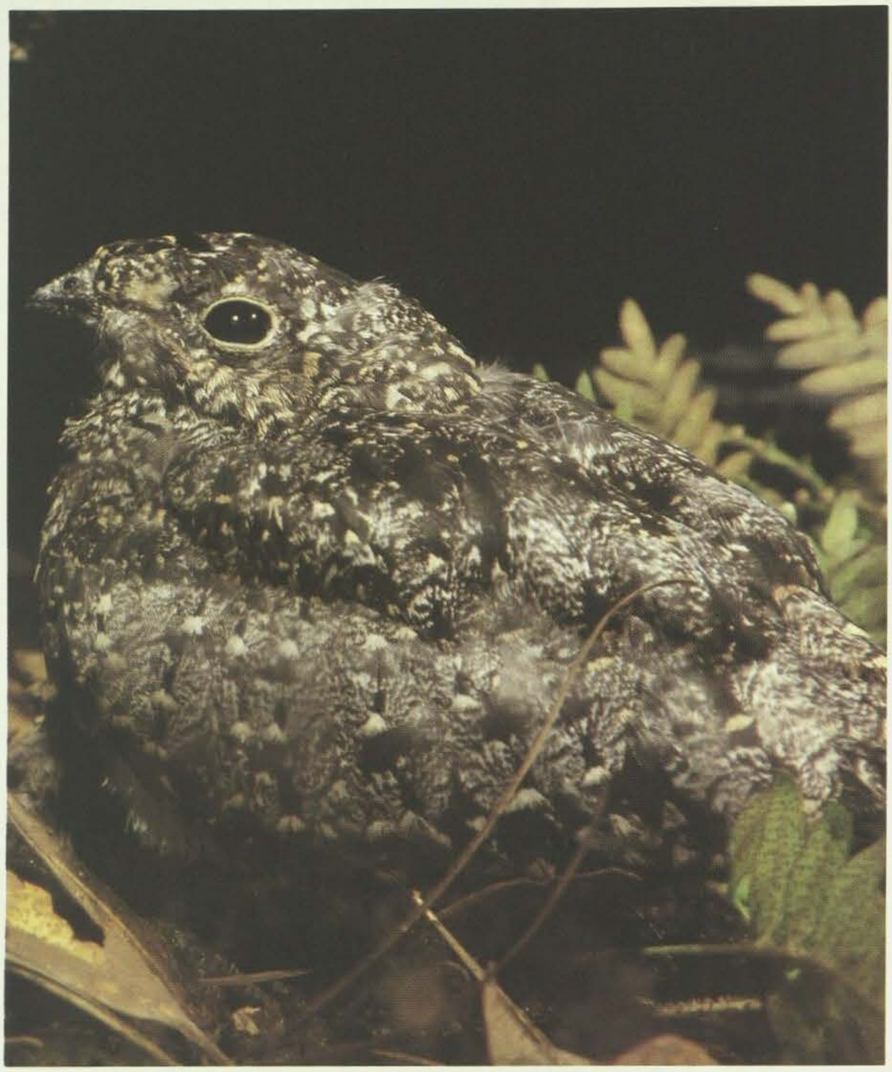
nighthawk, this can be a very demanding task. One female studied was able to hold the temperature of her eggs to a constant 115 degrees — even though the gravel roof around her heated up to a blistering 142 degrees!

Birds that spend so much time on a nest risk becoming "sitting ducks." Usually, however, the "dead leaf" pattern and protective coloration of goatsuckers' plumage enables them to blend easily into their surroundings and avoid detection. But if they are discovered, they may still have a trick or two. John James Audubon reported seeing a pair of chuck-will's widows actually remove their eggs when danger threatened. He said one of the pair waited defiantly beside the two eggs that had been discovered until the second parent flew in, whereupon each of the birds simply took an egg in its huge mouth and flew away with it!

Because goatsuckers have gargantuan appetites and feed primarily on flying insects, they migrate from our area in winter, when the insect supply declines. Accordingly, most North American goatsuckers migrate south in large flocks of their own kind to spend their winters in Central and South America, although some whip-poor-wills winter along the Gulf Coast and throughout the Florida peninsula. One reason goatsuckers migrate with their own kind may be that other birds actively avoid their company. Chuck-will's widows, for example, are known to devour small birds, such as swallows, warblers and hummingbirds, on the wing during migration by swallowing them whole.

There is one notable and amazing exception to the rule, however, when it comes to goatsuckers' migrations. In 1946, E.C. Jaeger discovered a hibernating goatsucker called the common poorwill in the Chuckawalla Mountains of the Colorado Desert. This bird is a small relative of the whip-poor-will found in the western United States. As is often the case, however, this "discovery" was new only to scientific circles. The Hopi Indians, who live in the area, were apparently well aware of this strange habit and traditionally call the poorwill the "sleeping one."

HAYES NORRIS



The common nighthawk is not really a hawk at all, but one of four members of the goatsucker family found in Florida.

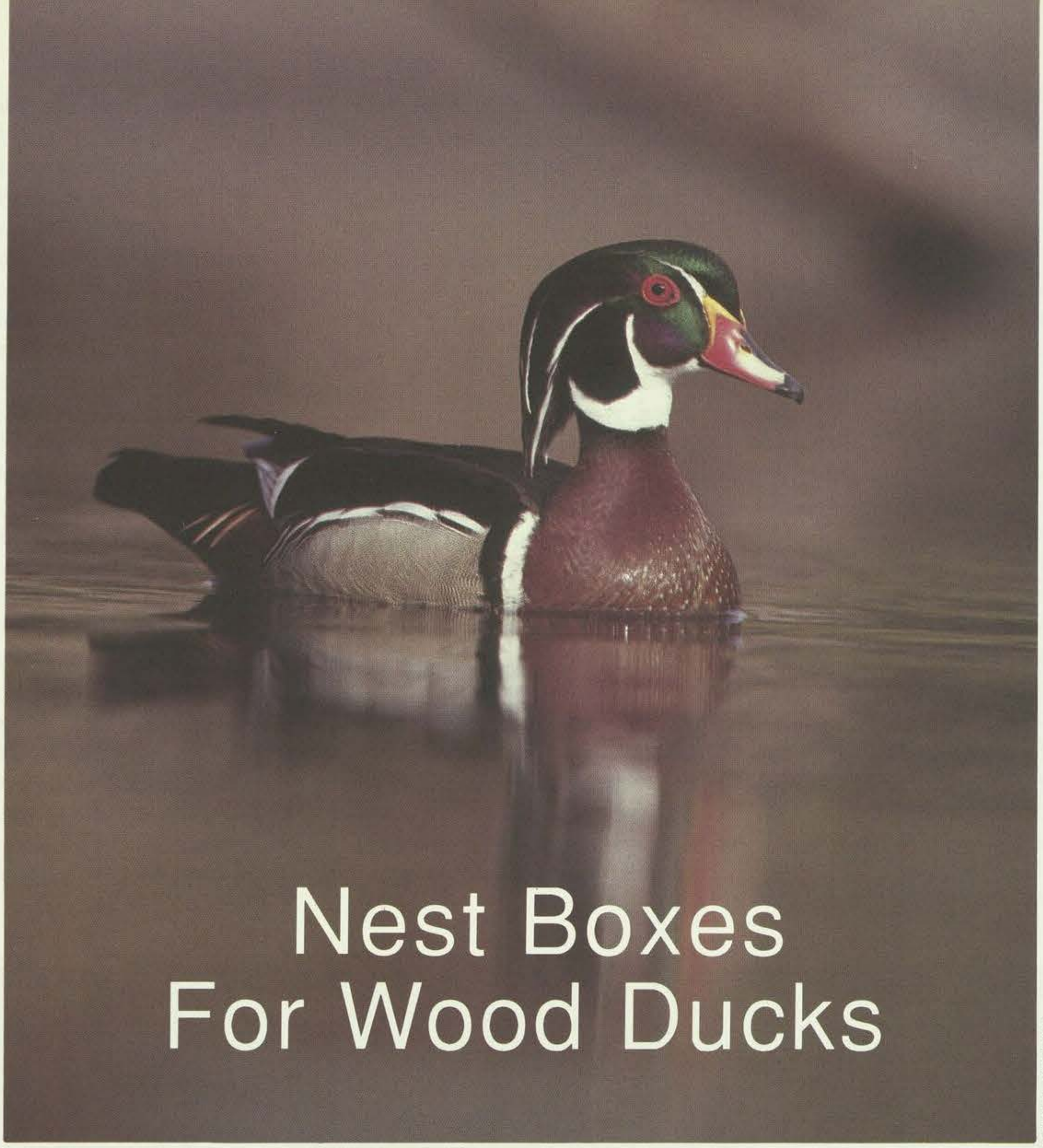
Jaeger found this poorwill in a small depression in a granite wall by sheer chance. At first the bird showed no outward signs of life, but as he carefully replaced it in its depression, it lazily opened one eye and then shut it again!

Two days later, Jaeger returned and found the bird in exactly the same position. Although he could detect no sign of a heartbeat or breathing, the sleepy bird's body temperature was recorded at 64 degrees, 40 degrees lower than normal. This time, Jaeger banded the bird before replacing it, and for the next four winters, he found it in the same rock depression, thus documenting the hibernation of this subspecies.

Although hibernation in birds was unknown until this discovery and only one other hibernating poorwill has been found in the wild, poorwills have been induced to hibernate in captivity. When the ambient air temperature drops to 38 degrees, poorwills become torpid, and their rate of oxygen consumption, an indicator of metabolic activity, drops to one-thirtieth of their normal rate. Under these conditions, one-third of an ounce of fat is sufficient to sustain a hibernating poorwill for 100 days, long enough to last the bird through the winter.

So the next time you happen to be out at night and hear a call that sounds like *chuck-will-wid-ow*, or *whip-poor-weel*, or a nasal *peent*, take a minute or two to appreciate these most impressive, yet little-known birds.

David and son Hayes Norris are full-time wildlife photographers living in Tallahassee.


WILLIAM WEBER

Nest Boxes For Wood Ducks

By Diane Roth Eggeman

Perhaps to the casual observer, a duck is a duck is a duck. Waterfowl biologists, on the other hand, assort the state's ducks into many categories. This tendency comes naturally from our training; a basic principle of biology is to classify and categorize plants and animals into groups.

One way biologists separate Florida's ducks is under "resident" and "migratory" headings. We attach the "migratory" label to the duck species that breed in the northern states and Canada and migrate to Florida to spend the winter. When we speak of "residents" we mean the three duck species that spend the entire year here — namely wood ducks, mottled ducks (or Florida ducks) and fulvous whistling-ducks.

Wood ducks are the most numerous and widespread of Florida's resident ducks. They are the third most harvested duck species in Florida. The Florida Game and Fresh Water Fish Commission's Waterfowl Management Program is primarily responsible for monitoring and managing the state's wood duck population. That's a tough assignment. Biologists fly over marshes and lakes to monitor other duck species, but woodies prefer wooded wetlands, which makes them hard to find from the air.

Without direct census techniques, biologists have traditionally relied on data from leg-band recoveries for population information. To manage this species better, the additional data from the nest box program will help us monitor changes in population size and indicate annual production of young birds.

Thanks to Ducks Unlimited's MARSH program, we got the nest box program off the ground by buying and distributing more than 700 deluxe-model nest boxes during 1987-88. Most boxes were made of wood, but others were plastic and metal. The new units came with steel posts and sheet-metal predator guards. These sets went to each of the five Commission regions, where they were erected on public property. The program also includes nest boxes that have been in place for several years. Many of these pre-existing boxes support well-established populations of nesting wood ducks.

Woodies nest in tree cavities and also readily accept man-made nesting structures, one of the few species that do so. This behavior has two big advantages to biologists. First, we can help ▷

establish or increase local populations by providing safe, artificial nest sites in areas where trees with suitable nest cavities are scarce. Second, biologists can collect timely data on breeding effort and success directly from these nest boxes. Can you imagine trying to obtain adequate sample sizes by locating wood duck nests in tree cavities throughout the state? Monitoring nest boxes proves infinitely more efficient and productive.

The main objectives of the Commission's nest box program are to estimate survival of adult females and evaluate the potential for monitoring breeding populations and production using data on box use and nest success.

Woodies in Florida start their nests as early as late January, and a few late-nesting hens still are incubating eggs in August. Hens incubate a nest for an average of 30 days. Wood ducks breed throughout the eastern United States, and, not surprisingly, their nesting seasons are longer at more southern latitudes.

Commission staff and reservists stay busy checking more than 800 nest boxes for six to eight months of the year. We visit each nest box in December or January to replace or add wood shavings for nest material and to make repairs. In addition, we check each box about once a month through the nesting season to capture and band nesting females and collect information on nest success. We now have the past three years' data available from Florida's nest box program as a start toward long-term population monitoring.

By catching and identifying nesting females, we can estimate precise survival rates. Female wood ducks, like most other duck species, tend to return year after year to the same area to nest. We often identify a hen nesting in the same box each year. Female ducklings also return as adults to nest in the same area where they were hatched. This loyalty to nest sites makes the chances of recapturing banded nesting females quite high and improves our estimates of survival rate. During the first two years of this effort, we banded 149 and 179 nesting hens and identified 209 and 269 individuals, respectively, each year. After analyzing the 1991 box data, we can begin to estimate annual survival rates for adult females.

Careful nest box monitoring also provides data on the number of boxes used and the number of boxes that had successful nests in a year. During the 1989 nesting season, woodies started 331 nests, using 22 percent of the boxes. In 1990, the figures were 457 nests and 32 percent. We expect box-use rates to continue to increase as hens find, accept and return to these relatively new nest boxes. In 1989, at least 2,500 ducklings exited boxes in the statewide program, and in 1990, the boxes produced more than 3,400 ducklings. We will evaluate these data to determine whether box-use rates can reflect changes in the size of the statewide breeding population. We also will evaluate whether the number of

GFC

Most wood duck nest boxes are made of wood, but others are made of plastic or metal, complete with predator guards.

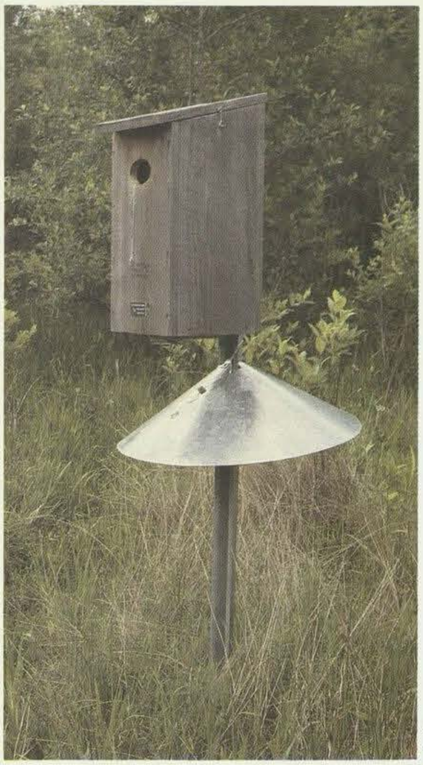
successful nests indicates changes in annual production.

The intensive nest-monitoring revealed that at least 7-8 percent of Florida's hen wood ducks successfully hatch two clutches of eggs during one nesting season. Wood ducks are the only species of North American duck to accomplish this reproductive feat regularly. Also, southern woodies seem to be better at it, probably because they have a longer nesting season. The nest box program helps us examine the long-term contribution of second nesting to the state's population and to investigate factors influencing its frequency.

The wood duck nest box program can boost the reproductive capacity of an area by adding high-quality nesting sites, resulting in more ducklings each year. The boxes also play a key role in the Commission's efforts to monitor the status of this important duck species in Florida. We are excited about the potential of the nest box program to help build a sound, long-term data base for managing Florida's wood ducks.

WOULD YOU LIKE TO PUT UP NEST BOXES? If you have suitable habitat and would like to put up nest boxes for wood ducks, we would be happy to supply guidelines, construction plans and sources for buying ready-made boxes. Just drop a note in the mail to Diane Eggeman, 8932 Apalachee Parkway, Tallahassee, FL, 32311.

Diane Roth Eggeman is a waterfowl biologist with the Commission's North Florida Waterfowl Field Station in Tallahassee.



GFC

Ducks Unlimited's MARSH program enabled the Commission to buy more than 700 deluxe model nest boxes.

BARRY MANSELL

Sanibel's Refuge Amidst Development

Text and Photographs by Linda E. Bailey

Florida's Sanibel Island seems an unlikely spot for one of the best winter birding refuges in the country. Visitors drive across a busy causeway from Ft. Myers Beach, through narrow, traffic-clogged streets. Follow the signs past shoulder-to-shoulder condos and shopping centers and the reward is J.N. "Ding" Darling National Wildlife Refuge.

Here the eager birder will be gratified with close-up views of the magnificent roseate spoonbill, the endangered wood stork, a multitude of herons and egrets, ducks and shorebirds, anhingas, ospreys, hawks and pelicans. The list seems endless. Birds concentrate in such numbers at dawn and dusk that their feeding frenzy goes on literally at the feet of the delighted visitors. The birds get so close that spotting scopes aren't necessary and photographers must either back up or change lenses.

How is it that a wildlife refuge occupies the northern shore of this highly developed island? It's due largely to the efforts of nationally known Iowa political cartoonist, Jay Norwood Darling, who signed his cartoons "Ding." Twice winning the Pulitzer Prize for his work, Darling helped start the national conservation movement in the 1930s. Well-known and respected, Darling used his visibility and influence to help organize the Iowa Izaak Walton League and later helped create the Iowa State Fish and Game Commission. In 1934, President Roosevelt selected Darling to head the U.S. Biological Survey, later to become the U.S. Fish and Wildlife Service. As its head, he pushed to establish the national wildlife refuge system.

In 1942, Darling built a winter home on Captiva Island after enjoying the area's special charm for several years. His efforts to preserve local wildlife sanctuaries set the stage for Florida

to establish a wildlife refuge there. In 1945, about 5,000 acres were designated the Sanibel National Refuge. It was renamed after Darling in 1967. Clearly, his efforts were insightful, as development he never could have imagined before his death in 1962 now covers much of the islands.

At sunrise, an automatic gate rises to allow the first visitors into the 5-mile Wildlife Drive. Observers don't have to travel far from the car to fully experience birding on freshwater pools to the right and tidal pools to the left. Particularly large flocks of wading birds gather in brackish pools beyond the observation tower when low tide coincides with sunrise. Seemingly oblivious to the refuge visitors, these birds wade and scoop, feeding on small marine life in the shallow water. The humans *ooh* and *aah* as the wading birds squawk in competition for a morning meal. Within an hour or two, the feeders disperse to surrounding mangroves to rest and preen for the day, only to return at dusk for another round.

This visually staggering event has not been without a price. With about 700,000 human visitors annually, refuge officials must constantly consider how the increasing numbers of cars and people with cameras and scopes affect the feeding habits of the inhabitants. During Florida's winter dry season, cars passing through the refuge stir up clouds of white, powdery dust that settles on cars, cameras, people and the surrounding vegetation. Refuge officials have had to ban mopeds and commercial vehicles, such as tour buses, from the drive. Now the refuge operates a tram from its Tarpon Bay entrance to accommodate large groups.

Meanwhile, the wildlife drama of the refuge continues. One day, a line of visitors watching the morning feed observed the bulbous eyes of an alligator appear amidst wading birds and a flock of mergansers. As it emerged, wading birds squawked and scattered, but soon returned to feed as the eyes sank quietly below the surface. Suddenly, open jaws rose up and snapped around a hapless merganser that was slowly pulled beneath the water, never to appear again. Undaunted by the line of witnesses, the alligator played out its role in the food chain, another way that nature works its wizardry at this treasured refuge.

[**Editor's note**: The refuge visitor center is open 9-5 daily from December to April; from May to November it is open 9-4 Monday-Saturday. Wildlife Drive is open every day but Fridays year round from sunrise to sunset.]

Linda E. Bailey is a free-lance photographer and writer, specializing in outdoor topics, from Mineral, Va.

Delicate Balance

Species: Barbour's Map Turtle
(Graptemys barbouri)
Florida Status: Species of Special Concern
Federal Status: Under Review for listing

Inequality of the sexes is fairly common...among the turtles. But physical differences between males and females, called sexual dimorphism, reach extraordinary proportions in the Barbour's map turtle, a colorful resident of the Apalachicola River and some of its tributaries.

During their first four or five years of life, young map turtles are sexually indistinguishable, with brightly patterned heads and limbs, and strong sawteeth on their backs. As female map turtles mature, they may attain nearly a foot in length, greatly outsizing their diminutive mates. Males rarely exceed 3 1/2 to 5 inches from head to tail. With age, females lose their spiny adornment, and the map-like maze of light and dark striping and coloration on the shell becomes muted.

In addition, adult males and females rarely eat from the same menu. The astonishingly enlarged heads of older females are adapted to crush the shells of good-sized snails and freshwater clams. Males and juveniles, on the other hand, use their narrow, more lightly constructed jaws to glean aquatic insects and their larvae from rocks and logs. Although males may mature in three or four years, most females don't reproduce until they are 15 or 20 years old.

Surprisingly, this conspicuous turtle was not discovered and named by scientists until 1942. Its range is restricted to the Apalachicola River system, including both the Chipola and Apalachicola rivers in Florida, and the Flint and Chattahoochee rivers in Georgia. Map turtles prefer relatively swift and deep river reaches with clear water, rocky bottoms, and abundant snags and fallen trees for basking. Females are especially timid. Sunning individuals are quick to plunge from basking sites at the slightest disturbance.

Map turtles rarely leave the water, except to bask and to lay clutches of eggs on sandbars and riverbanks. Nesting occurs during late spring and early summer, and adult females are thought to lay eggs three or four times during this period.

Barbour's map turtle, legally classified in Florida as a species of special concern, cannot be sold. Nevertheless, several factors threaten its populations. Biologists consider any species restricted to a single river drainage, particularly a river that is impounded, dredged and affected by upstream pollution, to be highly vulnerable. The large females, too, are sometimes collected for food and are subject to shooting by vandals. Range-wide population trends are unknown for this turtle, although a portion of the Chipola River population was studied in 1986 and judged reasonably secure.

Without consistent population monitoring and continued protection, there's no guarantee that the Chipola and Apalachicola rivers will continue to be colored by the unique Barbour's map turtle.

— Susan Cerulean

I recall as one of my most pleasant zoological experiences our discovery of a populous colony of this then-undescribed sawback...

The day we found ***barbouri****, three or four of us were standing shivering and enviously watching [Lewis] Marchand as he wallowed and snorted about, searching the bottom of the Chipola River through his goggles. Suddenly he broached into a whoop and held aloft a small turtle with the high keel of an unmistakable* ***Graptemys****. This was not only the first* ***Graptemys*** *I had seen in Florida but it held high promise of being something strikingly new, and we all plunged forthwith into the river in a great state of frenzy. Downstream and on the far shore I saw a turtle slide into the water from the limb of a half-submerged tree. I thrashed across the intervening space, went under, and there, some six feet down, saw the turtle perched on the forked end of a twig like a bird, its neck craned and its eyes staring. Curbing the impulse to seize the prize, I hung suspended in the water for as long as my breath would allow, gloating, and returning the rather stupid gaze of the animal with the utmost affection. When I finally reached my hand toward it the turtle made no effort to move. From this space we took home 16 sawbacks.*

— Archie Carr, from "Handbook of Turtles"

BARRY MANSELL

FLORIDA WILDLIFE's Cover Print Offer

Gregg Murray's scratchboard painting of a gray fox is an accurate portrait of this magnificent American canine.

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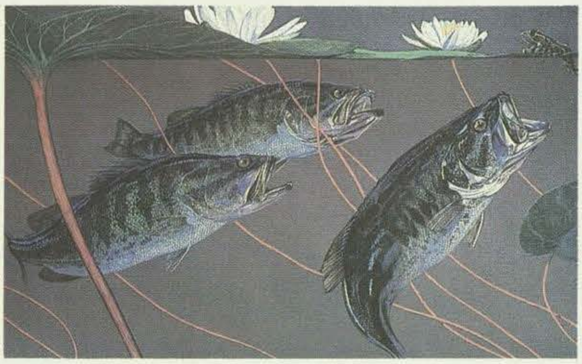

Florida's premier freshwater game fish, the largemouth bass, is depicted by Scott B. Crouse in this underwater scene.

Dillwyn "Dee" Smith observed aggressive reddish egrets in a territorial dispute through the shallow waters of Florida Bay.

This reproduction of Dee Smith's painting is so lifelike that these purple gallinules seaching for food seem capable of flipping a little water right out of the canvas. ▷

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Don't Call 'em Horns

By Robert E. Vanderhoof

As long as there have been hunters, there has been a fascination with the horns and antlers of their quarry. Their prominence in our culture stretches from prehistoric cave drawings to today's multi-million dollar trade in antler products.

Antlers of white-tailed deer are often called "horns" by the novice, but as avid white-tail hunters know, there are major differences between the two. The following text will give you the terminology to sound like an "old pro" and may even help you locate a trophy buck.

WILLIAM S. LEA

Horns or Antlers?

Animals belonging to the horn-bearing family of mammals include cattle, bison, gazelles, goats, sheep, oxen and Old World antelopes. Among the antler-bearing mammals are deer, elk, moose and caribou.

Horns differ from antlers in several important ways. Horns arise from dermal tissue (skin) and consist primarily of the same material that hair is made of (keratin). Their growth and composition is virtually identical to that of hooves.

The horn-producing, living tissue is located inside the horn itself. A typical horn consists of a bony core, a layer of living skin and the non-living outer layer of keratin. Horn, or keratin, is formed by the skin between the bone and the outer horn sheath in an annual cycle. This annual horn-growth cycle produces rings of horn similar to the way a tree produces its bark. In fact, big-horned sheep can be aged by counting their outer growth rings of horn like trees can be aged by counting their inner growth rings of wood.

Horns are living, unbranched, permanent structures that continue to grow throughout the animal's life. Because horns are permanent, any injury, particularly during its early development, will be reflected in the horn throughout the animal's life.

The pronghorn antelope is an exception. It has a forked horn and sheds the outer layer of its horn annually. So odd is the pronghorn that biologists have classified it in a family by itself: the *Antilocapridae*.

The tissue covering the outside of the growing antler is referred to as velvet. A typical growing antler consists of cartilage, similar to that in growing bones, covered by velvet. The velvet contains a high concentration of blood vessels and nerves that nourish the growing cartilage underneath it. As antlers grow, the cartilage hardens into bone in a process called ossification. As the growing antler matures, the velvet dies, leaving behind a hardened, non-living antler.

Fully formed antlers are generally branched, possess no living tissue and are completely replaced each year. Therefore, injury to the antlers one year will not be reflected in the next year's set.

The Antler Cycle in Deer

Antlers are shed annually and consequently follow a yearly cycle in their development. Triggered by increasing day-length, antler growth begins in early spring and is initiated by an increase in the hormone testosterone. Antlers begin to arise from pedicels, bony outgrowths of the skull. During the growth stage, antlers are soft and fragile and injure easily. As spring gives way to summer, antler growth continues to accelerate. The speed of antler development at this time is faster than the growth of any other living tissue in the ▷

animal kingdom. By autumn, a sharp increase in the buck's testosterone level triggers the hardening of the antler. As the antler hardens, the velvet dies and begins to peel. The buck removes the dried velvet from his antlers by polishing them on nearby saplings in a behavior termed rubbing. Once the velvet is shed, the buck becomes sexually active during a period called the rut. As the rut subsides and autumn turns to winter, the buck's testosterone level rapidly declines, triggering an erosion of the antler tissue above the pedicel. During mid to late winter, the antler is cast, and the process begins anew.

Prescription for Trophy Antlers

What makes a buck a trophy? Obviously, what constitutes a trophy deer is in the eye of the beholder, but most hunters agree that antlers are the bottom line. The size of a buck's antlers is dependent on three major factors: age, nutrition and genetics.

Age is the most important and easily controllable factor. A buck grows progressively larger antlers each year until the age of 6 or 7, while the majority of the size increase occurs between ages 2 and 4. Therefore, a landowner or leaseholder can increase the antler size of the bucks harvested on a given area simply by postponing their harvest until they are at least 4 years old. Doing so calls for self-discipline on the part of the hunter who must pass up an easy shot at a spike and hold out for the big one.

Although delaying the harvest of bucks until they reach 4 or 5 years old is the simplest and most effective prescription for increasing antler size, most bucks in Florida are harvested before they are 2 years old.

Of course, postponing harvest of bucks means carrying more of them in the field. So, in order not to exceed the carrying capacity of the range, there must be fewer does to make room for the extra bucks. Research also suggests that severely unbalanced buck:doe ratios (1:6 or 1:8) can cause a reduction in fawn production because the few remaining bucks cannot service the many available does. This could potentially cause problems in areas where a substantial amount of the buck harvest may occur before the peak of the rut. To avoid this problem, trophy buck managers should prevent their pre-harvest buck:doe ratios from dropping below 1:4 and should try for 1:1 or 1:2.

Improved nutrition is as important as age in affecting antler size in bucks, but is harder to manipulate. Antler growth is a physically demanding process, and adequate nutrition is essential for antlers to grow to their full potential. During Florida's hot summers and dry winters, however, deer may not have access to a nutritionally adequate diet.

There are two ways a landowner or leaseholder can increase the nutritional quality of a given deer range. One method is supplemental feeding of a high-protein dairy ration; the other is habitat manipulation.

To be effective, supplemental feeding needs to occur from late summer through early spring. Feeding deer, however, can be expensive and easily exceed $100 per animal in the field. A more cost-effective alternative is habitat manipulation.

The size of a buck's antlers is dependent on three major factors: age, nutrition and genetics.

Periodic burning or mowing are the most economical methods for increasing the nutritional quality of deer range and should be the first step in any quality deer management program. Another important, cost-effective method is planting food plots.

Research in the Southeast has shown that, in some instances, planting even 1 percent of an area in winter and summer food plots can increase antler size significantly. Small plots less than two acres seem to be utilized most. Logging roads, staging areas, abandoned pastures and power line rights-of-way are excellent and cost-effective areas in which to establish food plots. Planting legume forages (joint vetch, alyce-clover, cowpeas and soybeans) in the summer and cereal crops (ryegrass, oats, wheat and rye) during the winter will provide large amounts of nutritious deer forage at a fraction of the cost of supplemental feeding.

Genetics is the third and least influential factor affecting antler growth in white-tail bucks. Of course, it is one over which the land manager has little control.

A pervasive myth concerning antler growth and genetics is the notion of culling "genetically inferior" spike-bucks. Although antler growth is affected by genetics, there is no way in the field to distinguish a deer genetically inclined for small antlers. This is especially true in the Florida panhandle, where 75 to 85 percent of the yearling age-class bucks have spike antlers. Yearling bucks in this region have spikes because they are born late in the year and haven't had as much time to grow antlers as their early-born counterparts.

These late-born yearlings, however, will increase their antler size during their second year more than any other deer in the state. Therefore, in the panhandle at least, culling spike-antlered deer to improve overall antler quality will only result in eliminating 80 percent of the buck population before they can even begin to realize their full antler potential.

The best prescription for promoting antler growth through genetic manipulation is to allow bucks to reach the 4 and 5-year age classes. It's a sure bet that the biggest bucks will do most of the breeding regardless of their age. Nature takes care of its own when it comes to genetics.

So antlers aren't horns, but both certainly are wonders of nature and will continue to fascinate both biologist and hunter alike. The secret for larger antlers in Florida is elementary: "Let 'em get older and feed 'em right." Find an area that follows this simple rule, and you may be lucky enough to observe one of nature's wonders on your own living room wall.

Robert E. Vanderhoof is the Commission's statewide deer management program coordinator.

FLORIDA BUCK REGISTRY UPDATE

Compiled by Thomas J. Wright

It's the trophy buck hall of fame for Florida deer hunters, and sportsmen have nominated 1,680 bucks for admission since 1982. That's when the Game and Fresh Water Fish Commission established the Florida Buck Registry to maintain a record of all white-tailed bucks taken in the state.

Although it isn't certified by the Boone and Crockett Club, the program uses the B & C method of measuring antlers. The registry is coordinated through the Commission's Wildlife Reserve program, whose volunteer reservists in each region score antlers brought to them by hunters.

The registry serves several purposes. Not only does it recognize sportsmen who take trophy bucks, it provides Commission wildlife biologists with information on which areas and habitats produce bucks with trophy antlers. In addition, it helps educate the public about what is necessary to produce such bucks: sound habitat management and controlled harvest of does and small bucks.

In order to qualify for the Florida Buck Registry, a deer must have a minimum antler score of 100 B & C inches for typical antlers and 125 B & C inches for non-typical antlers. The deer must be taken in Florida by a legal method. Deer taken in previous seasons are eligible for entry.

Nine out of 10 racks submitted qualify. The Northwest Region has produced the most trophy bucks, with 530 qualifying for the registry. The Central Region is second with 470 qualifiers, followed by 300 from the Northeast, 177 from the South and 42 from the Everglades. To have your deer rack scored, contact the Wildlife Reserve Coordinator at the nearest regional office.

None of the 192 racks Reservists scored since last year managed to crack the statewide top 10 in either the typical or non-typical categories. However, each region's list of top 10 typical bucks has a new member. The South Region's new entry was taken during the 1990-91 season. All others were harvested during previous seasons — one as far back as 1964.

NORTHWEST REGION — TOP 10 TYPICAL BUCKS

Name	Location	Date	Antler Score
Larry Furr	Gadsden County	1977	168 1/8
Danny Raines	Jackson County	1973	154 3/8
H.M. Butler	Gadsden County	1979	153 7/8
Nancy Sumner	Liberty County	1981	152 3/8
Ramey Gilley	Jackson County	1964	152 1/8
Robert Jones	Calhoun County	1985	150 4/8
Jay Taylor	Jefferson County	1987	150 2/8
Richard Hayes	Gadsden County	1989	148 5/8
Eric Richardson	Liberty County	1988	148
William C. Coxetter	Jefferson County	1984	147 7/8

NORTHEAST REGION — TOP 10 TYPICAL BUCKS

Name	Location	Date	Antler Score
Chris Harrell	Madison County	1987	156 7/8
Gary W. Leis	Taylor County	1987	156 5/8
Robert S. Ballard	Columbia County	1980	153 1/8
Clifton Davis	Alachua County	1986	152 7/8
Clifford Burnham	Lochloosa WMA	1978	150 2/8
C. Frank Jones	Levy County	1957	149 2/8
Artie Hall	Alachua County	1984	148 5/8
Richard K. Lee	Hamilton County	1977	146 6/8
Jack Tarr	Osceola WMA	1974	143 6/8
Jerry L. Page	Madison County	1989	142 7/8

CENTRAL REGION — TOP 10 TYPICAL BUCKS

Name	Location	Date	Antler Score
Robbie Hastings	Ocala Natl. Forest	1940	154 3/8
Melvin Arline	Citrus WMA	1980	152 5/8
Charles Roberts	Fort McCoy WMA	1989	151 4/8
Herbert G. Weagraff	Orange County	1986	149 4/8
Rick Hannis	Brevard County	1985	146 7/8
Ronald L. Waldron	Orange County	1975	144 5/8
Jim Wilson	Brevard County	1984	143 5/8
Randy Alderman	St. Johns County	1966	142 3/8
Melvin Arline	Citrus County	1983	141 5/8
W. Bryant Adams	Osceola County	1959	140 3/8

SOUTH REGION — TOP 10 TYPICAL BUCKS

Name	Location	Date	Antler Score
Bill Scharber	Pasco County	UNK	153 5/8
Mike Sherouse	Hernando County	1970	150 7/8
Pete Wyrosdick	Green Swamp WMA	1989	150 7/8
Charles P. Lykes Jr.	Highlands County	1977	150 6/8
Max Boswell	Glades County	1990	146 4/8
Stanley Gude	Pasco County	UNK	140 2/8
Lee Sisson	Hardee County	1988	139 1/8
Mark Croft Sr.	Pasco County	1980	139
Henry Boyett	Pasco County	1955	137 2/8
E.W. Cribb	Highlands County	1981	135 6/8

EVERGLADES REGION — TOP 10 TYPICAL BUCKS

Name	Location	Date	Antler Score
G.P. Holly	St. Lucie County	1978	145
Jim Wilson	Indian River County	1985	144
Tom McBroom II	Okeechobee County	1966	140 1/8
Reese Suggs	Martin County	1982	137 4/8
Greg Cadenhead	Indian River County	1981	134 1/8
Jack Daughtrey	Martin County	1964	132
James N. Orth	Indian River County	1966	131 1/8
Glenn Schenavar	Indian River County	1987	128 5/8
Stewart Stein	Okeechobee County	1990	125 6/8
Jack G. Curry	Martin County	1989	125 6/8

TOP 10 FLORIDA BUCK REGISTRY

(Typical)

Typical antlers are symmetrical in form, with matching pairs of tines from the upper surface of both main beams.

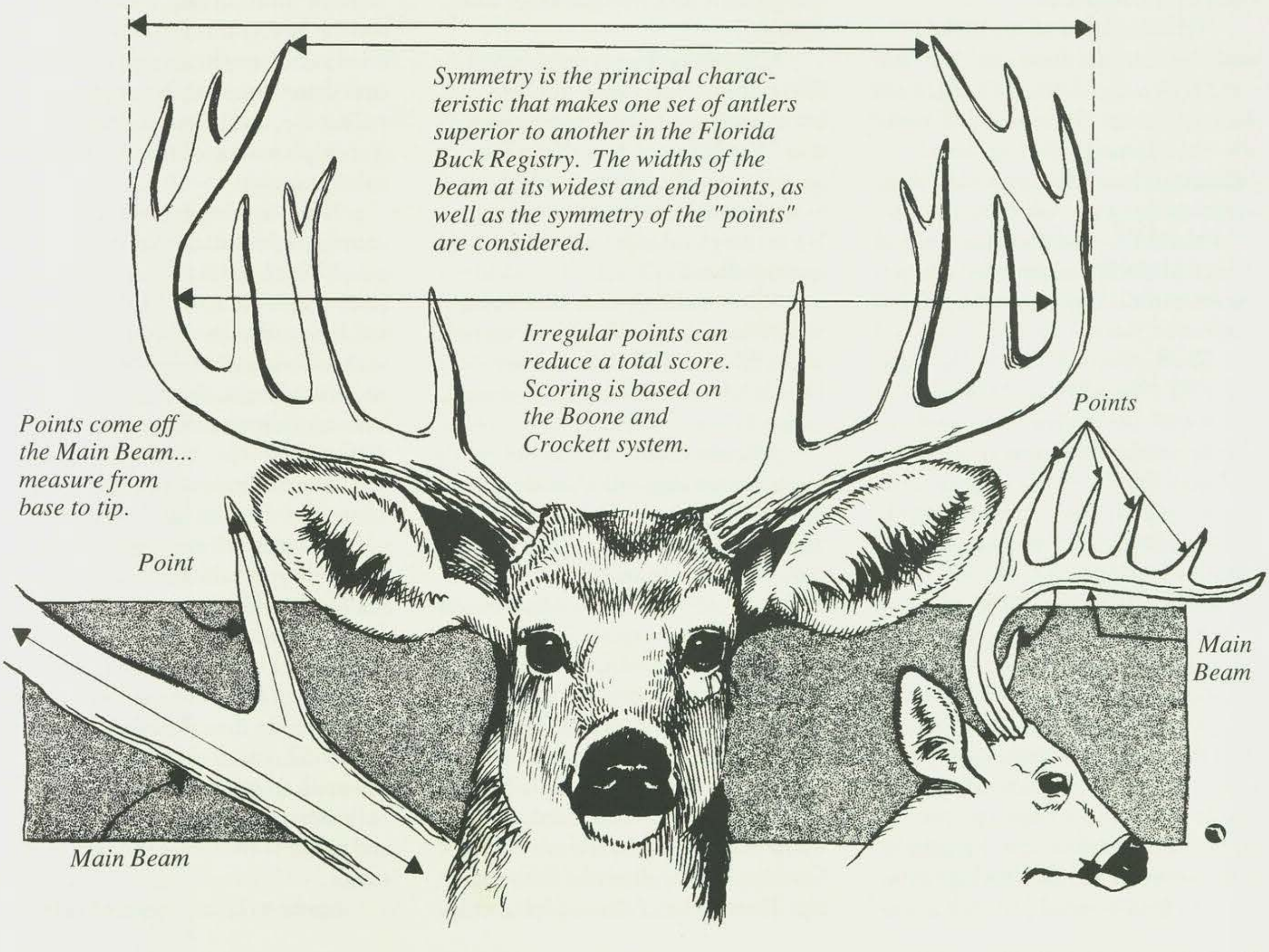
Name	Location	Date	Antler Score	No. of Tines
Larry Furr	Gadsden County	1977	168 1/8	14
Chris Harrell	Madison County	1987	156 7/8	12
Gary W. Leis	Taylor County	1987	156 5/8	11
Danny Raines	Jackson County	1973	154 3/8	10

Robbie Hastings	Ocala Natl. Forest	1940	154 3/8	12
H.M. Butler	Gadsden County	1979	153 7/8	12
Bill Scharber	Pasco County	UNK	153 5/8	10
Robert S. Ballard	Columbia County	1980	153 1/8	11
Clifton Davis	Alachua County	1986	152 7/8	11
Melvin Arline	Citrus WMA	1980	152 5/8	15

(Non-Typical)

Non-typical antlers are frequently nonsymmetrical and have unmatching tines growing from the sides or lower surfaces of both main beams. They may also have tines on the upper beam surface.

Name	Location	Date	Antler Score	No. of Tines
Clark Durrance	Wakulla County	1940s	201 3/8	25
Henry Brinson	Jackson County	1959	186	29
W.L. Hurst	Calhoun County	1970	181 2/8	22
Clay H. Mickler	Pasco County	1985	170 4/8	20
Donnie Nicholson	Escambia County	1972	164 5/8	14
Billy Joe Bass	Madison County	1975	163 1/8	16
Charles Dean	Taylor County	1936	162 5/8	18
Ronnie Elrod	Highlands County	UNK	160 6/8	22
Alton Bonds	Suwannee County	1986	156 5/8	15
Wesley N. Oehmig	Alachua County	1985	153 5/8	15



Symmetry is the principal characteristic that makes one set of antlers superior to another in the Florida Buck Registry. The widths of the beam at its widest and end points, as well as the symmetry of the "points" are considered.

Irregular points can reduce a total score. Scoring is based on the Boone and Crockett system.

Points come off the Main Beam... measure from base to tip.

Calling For Bucks

Text and Photograph by Bob McNally

Grunt calling, the latest wrinkle in deer hunting, reverses the hunting tables. Instead of you looking for a buck, the buck comes looking for you.

Jeff Danbury, of Jacksonville, is an experienced duck, goose and turkey hunter. His keen hearing is keyed to the proper pitch of wild game calls so that he can mimic them perfectly with man-made calls.

Danbury is remarkably successful wherever he calls and hunts birds. But when he first heard that someone had devised a call that would attract deer, Danbury was skeptical.

"I'd hunted deer all my life and I never heard one of them call," Danbury said. "I knew that deer didn't call like ducks or turkeys, or even quail. If anyone had told me 10 years ago about calling deer I would have thought they were nuts. But I had some friends who tried it, and they said there was something to it. So I bought a call made by the Knight and Hale Company in Tennessee and gave it a try.

The Knight and Hale call he used is the "EZ-Grunt-ER," and Danbury had it with him the first morning of Florida's muzzleloader season one recent autumn. Danbury was in a tree stand on private property near a cultivated field before daylight. Not long after daybreak, he spotted a six-point buck in the middle of the field, 300 yards distant, much too far for a shot with a muzzleloading rifle. The deer was feeding and moving slowly across the field.

"I figured I had nothing to lose, so I tried the deer call," Danbury said. "I made several low, grunting calls, and that buck snapped its head up, spun around and started my way. I grunted a few more times and the deer kept coming. The buck covered 250 yards across the field and stopped just 50 yards away from me in the woods, looking all around for the source of the grunt call. It was an easy shot, and I took a buck that I have no doubt I otherwise wouldn't have downed."

Danbury called in two more bucks that season with the EZ-Grunt-ER, including a 10-pointer from the panhandle. His father borrowed the call and pulled a buck into gun range with it, too.

"To this day I have yet to hear a deer call, and most of the hunters I know have never heard a whitetail either," Danbury said. "For that reason most hunters don't believe a deer call works. I can understand that feeling, but *the thing worked for me* — there is no question about it."

White-tailed deer are much more vocal than most people believe, according to EZ-Grunt-ER manufacturer David Hale, a world-champion goose caller.

"Hunters often ask why they've never heard a deer call when they're in the woods," Hale said. "I'm convinced most hunters who have spent a lot of time afield *have* heard deer calling, but they didn't recognize it for what it was. A deer's call is a very low, subtle sound. It would be easy for someone to hear a deer call but not recognize the noise unless he was 'tuned-in' to the sound.

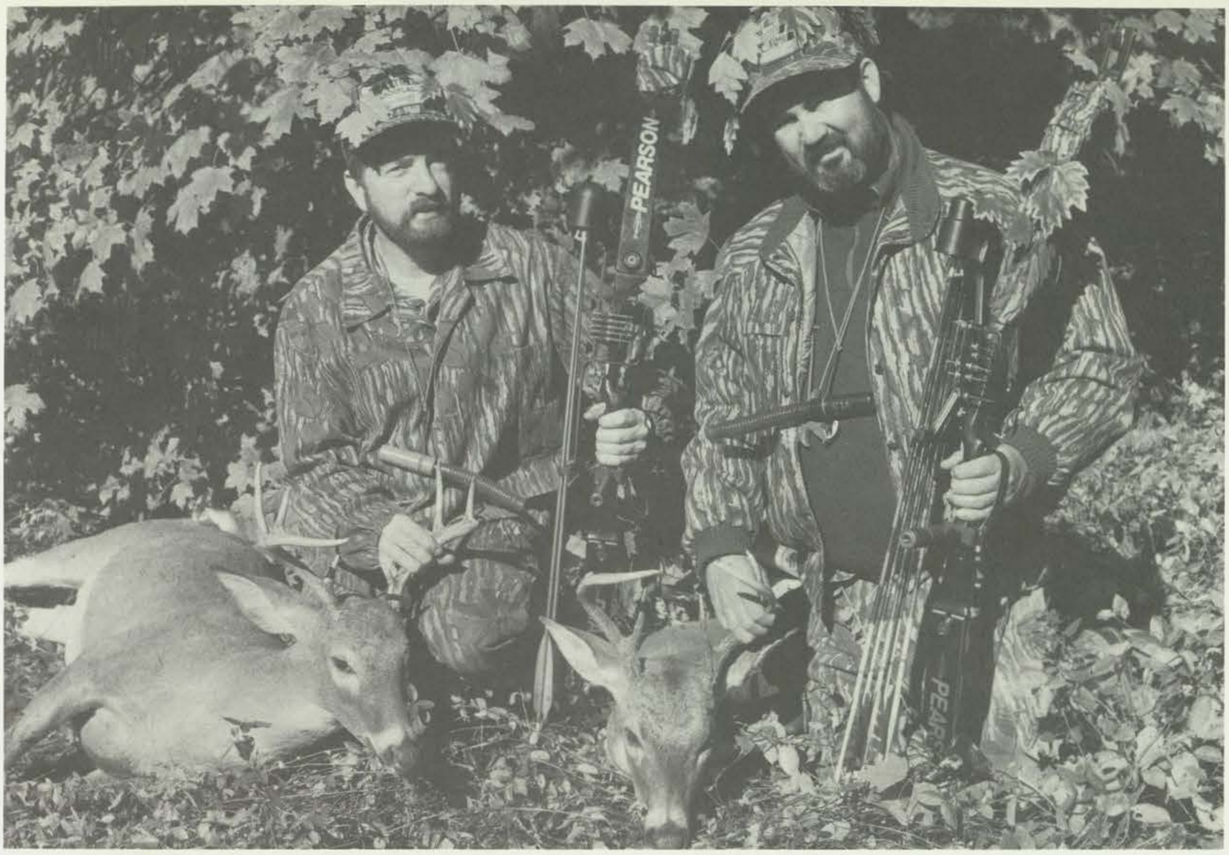
"I first heard a buck grunting about 15 years ago as it was chasing a doe. But the grunting of the buck didn't really trigger me into thinking about manufacturing a deer call until a few years ago. I spent a lot of time studying a captive buck and doe deer. It was incredible how vocal they were. Deer are gregarious animals, and they definitely communicate vocally."

Wildlife biologists Dr. Larry Marchinton and Dr. Tom Atkeson of the University of Georgia School of Forest Resources in Athens concur. They have studied deer in many areas for many years and have identified 12 different whitetail deer vocalizations, and the biologists believe there may be other calls. Larry Richardson at Mississippi State University has studied deer calling, too, and he agrees that whitetail grunting is a complicated, social form of communication.

"There is a lot about calling or grunting deer that isn't known," Hale stated. "But I do know that it works. How to call, when to call, the frequency and tones, all haven't been worked out yet because deer calling is too new. It's not like calling ducks or geese or turkeys, which have long traditions to them.

"Deer calling will not make a great hunter out of a poor one," he continued. A hunter still must work to put himself in good whitetail habitat and not be seen, heard or smelled by the deer before making the shot. But unlike other phases of the sport, calling deer makes them come looking for the hunter, rather than the other way around. This alone makes grunting for whitetails an interesting, fun challenge to the sport, something every waterfowl and turkey hunter can easily understand.

I spoke to Hale one day after both



David Hale (left) and Harold Knight used grunt calls to bring these bucks into range.

he and Harold Knight had arrowed eight-point bucks that each man had called in range.

"Harold called in one buck he never knew was there," Hale said. "He called another buck that was walking away with four does. Immediately the buck turned toward him, jumped a fence, and Harold shot the eight-pointer at 30 yards with his bow.

"The call is absolutely deadly on 1 1/2- to 2 1/2-year-old bucks. It also works very well on does, because the animals are gregarious and are always seeking others. I'm also convinced that when a hunter uses the call correctly, it is impossible to alarm or scare deer away from him. I've watched too many deer react positively to the call for it to alarm them. I've also called to lots of deer I had no intention of shooting. The animals either come to the call or ignore it. They never spook."

Many commercial deer calls measure about 12 inches long. They have hard plastic bases like a duck call and a soft, flexible tube attached to their ends like some elk calls. The call has a reed, and the hunter blows into one end to make low, slow grunting noises that Hale said should sound like those made by a hog.

"I like to make 15 to 20 short 'hoggy' grunts, one behind the other, within about 30 seconds," Hale said. "I blow into the call like I'm hyperventilating. Then I put the call aside and watch for deer. A deer can easily hear even a low call out to about 300 yards, and usually they'll come to the call slowly, kind of sneaking in, so you've got to be alert and ready for the shot. The deer will come in looking for you — much like a turkey will, because he is looking for the deer that made the sound.

"Often it will take a deer 15 to 20 minutes to work its way close enough to you for a clean shot with bows and muzzleloaders, so I try to call every 15 to 20 minutes."

Hale said many hunters mistakenly call too loudly and too frequently. Call no more than every 15 to 20 minutes, and use a watch if you want to time your calls. He recommended that hunters cup their hand over the end of the call, much like a duck or crow call. And blow the call low and against the chest. He stressed not to call too loudly; it's better to call too softly.

I've used the Knight and Hale grunt call for several deer seasons, and it's effective. In fact, using a deer call has become a vital part of my hunting strategy. I've only used it from a tree stand, but I believe even stalkers would find the call useful. To date, I've called in three racked bucks, and each one was completely duped, looking for the buck he'd heard me imitate.

None of them survived my audible challenge.

[Editor's note: The EZ-Grunt-ER deer call is manufactured by Knight and Hale, Box 468, Cadiz, KY 42211; (502) 522-3651]

Bob McNally, former outdoors editor of the ***Florida Times Union*** *newspaper, is a regular free-lance contributor living in Jacksonville.*

Outdoor Library

If you haven't yet purchased a calendar for your home or office, or even if you have, consider Florida's Calamity Calendar, produced by the Florida Conservation Foundation. The illustration below is one of the tamer environmental statements featured in the 1992 edition.

Artists poke fun at Florida's outrageous growth and its unpredictable consequences in these tongue-in-cheek political cartoons. The calendar offers a selection of the past year's news headlines of Florida's not-so-funny environmental calamities.

The calendar is available from the Environmental Information Center, 1251-B Miller Park, FL 32789. Or call (407) 644-5377.

For those who like wildlife on a global scale, Wildlife Conservation International (WCI) has produced a beautiful calendar. It features color photographs of wildlife species from North America, South America, Asia and Africa. If you don't see it in a bookstore, contact Abbeville Press, Inc., 488 Madison Avenue, New York, NY 10022. Proceeds from the $9.95 calendar help fund WCI efforts to protect wild animals and wild places.

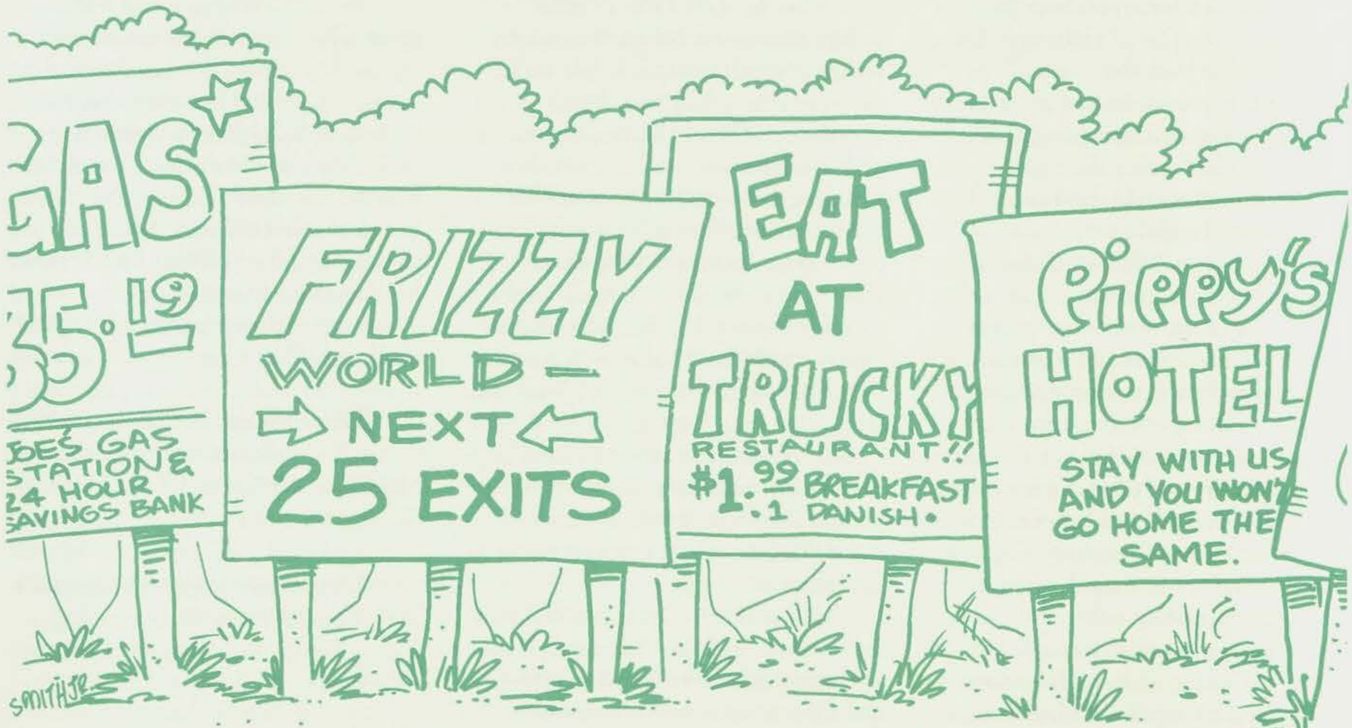
The Sierra Club is famous for its wildlife and nature-oriented calendars. For 1992, the Sierra Club has published six choices: Centennial, Wilderness, Wildlife, Trails, Wilderness Engagement and Sierra Pocket calendars. Look for them in bookstores or from local Sierra Club chapters.

The Florida Wildlife Federation's calendar features more than 30 photographs of our state's wildlife taken by some of America's leading photographers. The cost is $9.95 for members and $10.95 for non-members. Add $2.50 for shipping, and Florida residents must pay 7 percent sales tax. Order from Florida Wildlife Federation, P.O. Box 6870, Tallahassee, FL 32314-6870 (not affiliated with FLORIDA WILDLIFE magazine).

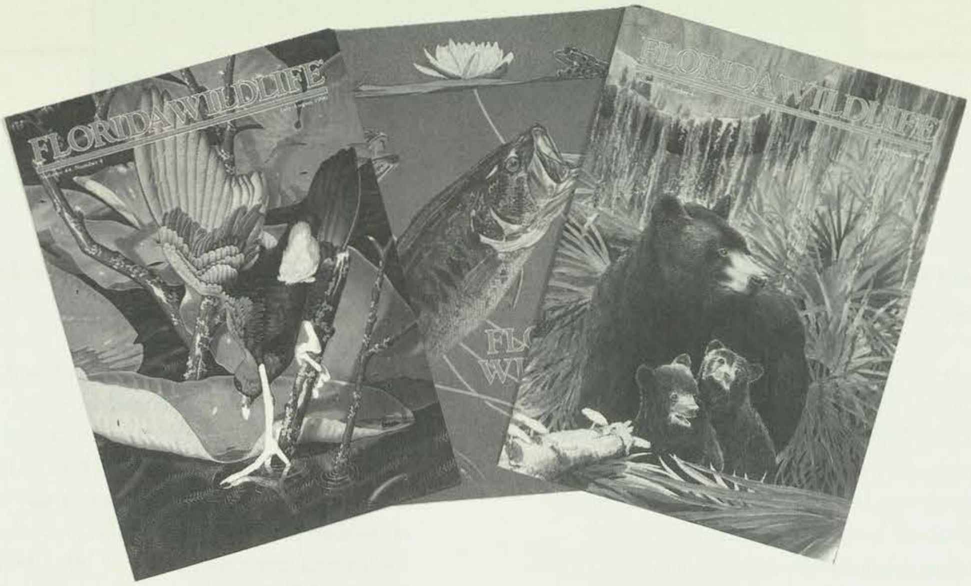
Another favorite nature calendar is James Valentine's Florida, in large scenic and small engagement styles. His spectacular scenic photographs of Florida are unrivaled and have been featured in FLORIDA WILDLIFE several times.

Check your local bookstore for other scenic calendars not mentioned here.

— Andrea H. Blount and Scott Ball



TYPICAL TOURISTS' VIEW OF THE FLORIDA LANDSCAPE



FLORIDA WILDLIFE
Cover Art Contest

Deadline for submission of slides: Monday, May 11, 1992
See page 33 for past cover winners

PRELIMINARY JUDGING: Send original 35mm color slides or larger transparencies of your artwork, labeled. Artists may submit up to three entries. Artwork should fill the entire frame of the slide if possible. Do not send slides of framed work. All slides will be returned after the winning art has been published in the July-August issue.

SUBJECT MATTER: Native Florida species from the following categories are suggested:

Nongame species such as turtles, salamanders, butterflies and birds such as songbirds, wading birds and raptors.

Game and furbearing species such as white-tailed deer, wild turkey, bobwhite quail, mourning dove, ducks, largemouth bass, otter, beaver, fox and bobcat.

Endangered species such as the Florida panther, red-cockaded woodpecker, Key deer and American crocodile.

SIZE AND COMPOSITION: Submissions should follow a horizontal 12 x 17-inch format (size of magazine unfolded) with the main subject placed on the right-hand half of the work (the front cover area, which is 8 1/2 x 12 inches). Keep in mind that the FLORIDA WILDLIFE logo will be placed across the front cover, two inches from the top. The artist's signature should be well integrated with the painting or placed in the lower right-hand corner with ample space from the edge of the work.

AGREEMENT TO PUBLISH: The winning artist's work will be displayed on the cover of FLORIDA WILDLIFE's July-August 1992 issue. The artist will be paid $500 for the cover and rights to publish 1,000 limited edition numbered and signed prints. The agreement will specify delivery terms, vest ownership of the original with the artist and provide the Commission with future rights to feature the work for promotion. The artist will receive 25 prints. Honorable mention winners will receive a cash award.

JUDGING: Entries will be judged on originality, anatomical correctness, color, design, mastery of the medium chosen and appropriateness to the magazine's format.

SEND TO: Art editor, FLORIDA WILDLIFE, 620 South Meridian St., Tallahassee, FL 32399-1600. Include your social security number, phone number and a self-addressed stamped envelope with your entries.

The magazine staff will provide reasonable care for slides received from artists but cannot be responsible for loss or damage. Artists should insure their slides if they feel it is necessary.

It's The Law

By Inspector Kyle W. Hill

Question: I recently found a road-killed alligator. May I keep the skull or have the alligator mounted?

Answer: No. Alligators and their parts are still protected by law. However, alligators taken by authorized alligator control agents and by licensed hunters during the annual regulated hunts may be sold. Skulls are offered for sale at many taxidermy studios. To make sure you are purchasing a legal skull, check for the required tag number, which usually is permanently attached on the underside of the skull. Mounted alligators offered for sale will have a Commission harvest tag attached to the tail section.

The reason the Commission does not allow the mounting of road-killed alligators by private individuals is to ensure that illegally killed animals do not enter the commercial market.

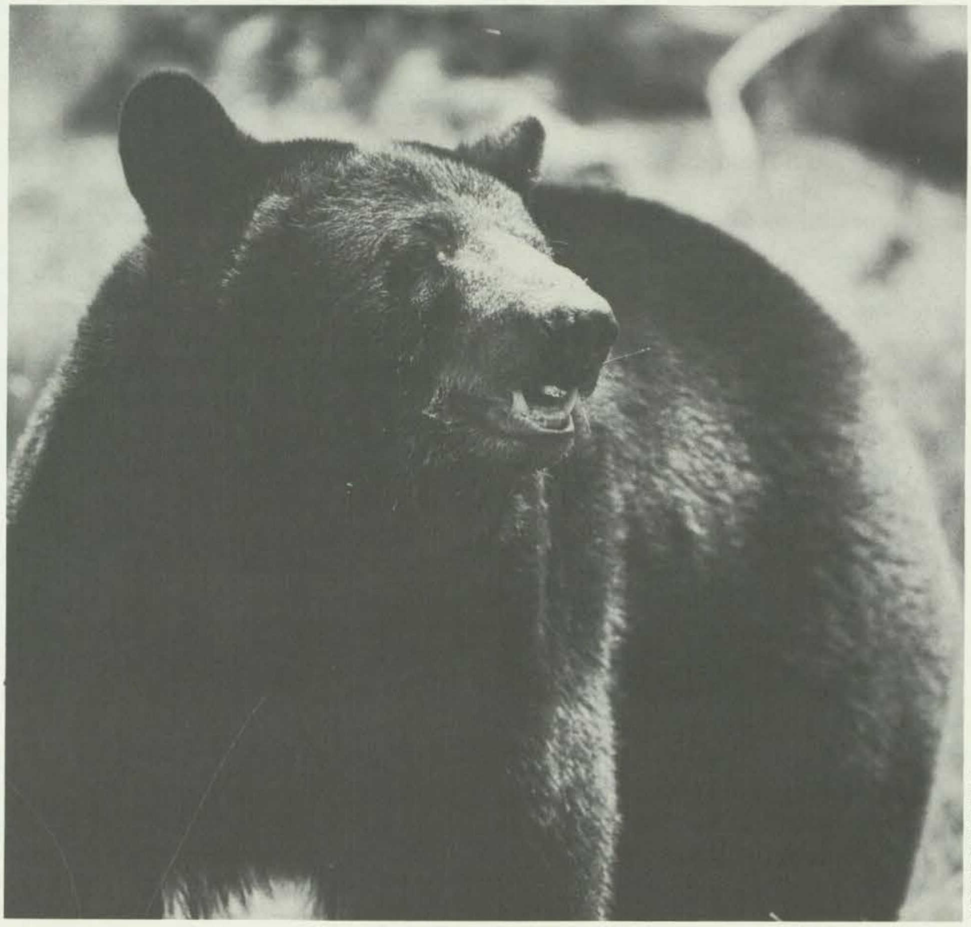
Question: Is it legal for me to sell the skins from deer that I harvest? What about the antlers?

Answer: Yes. The selling of deer skins and antlers is permissible.

Question: I have an old black bear rug that I would like to sell. Is it legal?

Answer: No. Black bears or black bear parts (claws, skins, skulls, mounts, etc.) **may not be bought or sold** in Florida. Wildlife officers make many arrests each year for the illegal sale of black bear claw jewelry. This law applies to bears taken outside the state as well because there is no way to distinguish between Florida black bear parts and those from other states.

Black bears are classified as a threatened species in Florida.


WILLIAM A. GREER

It is illegal to buy or sell black bear claws, skins, skulls, etc. in Florida.

Hunter Education

By Captain Ed Tyer

It's been standing-room-only in the Game and Fresh Water Fish Commission's hunter education classes since Florida's mandatory hunter safety training law took effect last summer.

The law requires anyone born on or after June 1, 1975 to pass a prescribed hunter safety course before hunting with a firearm, gun, bow or crossbow. As a result, course enrollment has skyrocketed to approximately 17,000 people, mostly young hunters and their parents, since July 1. By June 30, we expect that figure to reach 25,000, far above the average of 8,500-9,000 students per year.

The course is not just for hunters. All outdoor enthusiasts can benefit from the course. And the course dispenses valuable information to firearm owners and others interested in learning about firearm safety. The course includes 12 hours of classroom lectures, videos and hands-on experience, followed by a range trip where participants shoot a rifle, shotgun and bow. The classroom portion includes approximately one hour each on the following subjects.

Firearms and Hunting-Related Laws — Students are exposed to some of the federal and state laws regulating gun ownership and use. Florida's wildlife laws and hunting regulations are discussed.

Ethics and Hunter Responsibilities — This section explains ethical hunting behavior and the hunter's responsibilities to wildlife, landowners, nonhunters and other hunters. Students are taught that everyone must share the responsibility of conserving and protecting our wildlife resources.

Firearm Nomenclature — Learning to identify the various parts of a firearm helps a student understand how a firearm works. Familiarity with different firearm actions such as a bolt, pump, break and semi-auto is required for safe gun handling.

Ammunition Nomenclature — Just because a cartridge will fit into a gun does not mean it is safe to shoot. Knowledge of ammunition is required whether you are target shooting or hunting. Matching the right ammunition with the gun and its intended use is important.

Safety and Safe Gun Handling — Knowing how to carry a firearm safely is fundamental. What to do when encountering obstacles, maintaining proper muzzle control, transporting firearms and other practical safety habits are taught in this section.

Wildlife Identification and Wildlife Management — These are separate topics, but together they provide information on wildlife's needs and problems. A knowledge of wildlife is useful whether you are hunting with a gun, camera or binoculars.

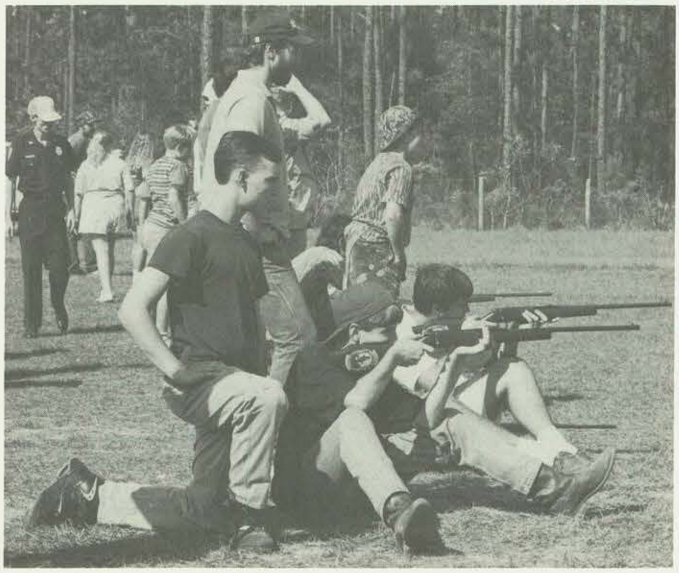
First Aid and Wilderness Survival — Together, these add to the overall safety and pleasure of the outdoor experience. Basic first aid gives the student some practical knowledge needed to address emergency situations. Wilderness survival stresses a common-sense approach to dealing with the unknown. Map and compass use are taught, along with how to build a fire for warmth and security.

Black Powder Firearms and Bowhunting — These increasingly popular hunting methods call for unique safety precautions. The basics of black powder equipment, loading procedures and firearm maintenance are covered. For bowhunters, matching the bow to the individual and the arrows to the bow and archer, plus knowing which points to use in a particular situation are paramount to safe and ethical shooting or hunting.

Marksmanship — How to aim or point your firearm properly, the best position for the situation and following through after your shot are imperative skills. The same fundamentals are used for target shooting, hunting or just plinking. The proper grip on the gun, sight alignment, breath control and trigger control combine to make the shot. Safe and ethical hunting requires good marksmanship skills.

Florida's free hunter education course offers something for everyone, so come join us for the experience, the knowledge and the fun. Contact the nearest Commission office (see page 48) to sign up for the next available course in your area. If you are interested in helping future generations appreciate our wildlife heritage, ask about becoming a volunteer instructor.

BILL BURGIN



Compiled by Scott Ball

RANEW IS OFFICER OF THE YEAR

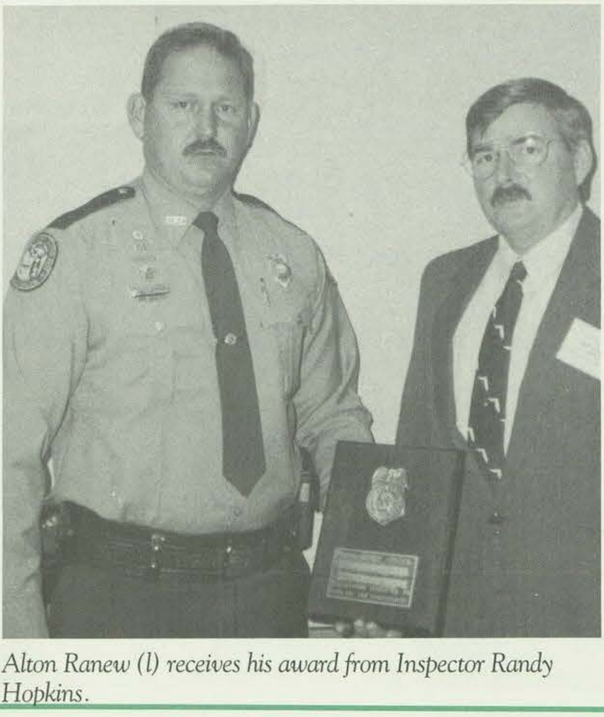
Alton Ranew, a 10-year veteran of the Game and Fresh Water Fish Commission's Division of Law Enforcement has been named the agency's Wildlife Officer of the Year for 1991.

Ranew has performed a variety of duties since joining the Commission. He worked boating safety and water patrol on Lake Okeechobee and patrolled the woods and waters of Jefferson County before his current assignment as a trainer/handler in the Commission's K-9 law enforcement program. He is teamed with "Skyler" in Gadsden County.

In addition, Ranew is a certified instructor for the Commission's Hunter Education, defensive driving, First Responder and firearms training programs. When he's not on duty, he is a little league baseball coach in Chattahoochee.

"Officer Ranew is constantly endeavoring to improve himself," said Col. Bob Edwards, director of the Commission's Division of Law Enforcement. "His conscientious dedication to public service, professional attitude and perpetual striving to be a total officer have earned him the respect of his co-workers, the law enforcement community and the general public. He exemplifies the true and proper image of the Florida Game and Fresh Water Fish Commission."

Ranew is also the father of a state record-holder. Last August, his son Michael caught the first state record flathead catfish (see story page 24).



Alton Ranew (l) receives his award from Inspector Randy Hopkins.

FLORIDA — LAST STAND FOR MONARCHS?

Florida could become the last stand for migrating monarch butterflies east of the Rockies if destruction of their Mexican wintering grounds continues, according to a University of Florida (UF) researcher.

Each winter, the orange and black butterflies migrate along the East Coast of the United States and across to Mexico. But monarchs are losing habitat as humans develop the forests of the Mexican mountains.

"Some monarch butterflies spend the winters in Florida," said Lincoln Brower, a UF zoology professor. "If we take steps to protect their winter refuges here, we might be able to save the migration of these beautiful creatures."

A few monarchs spend the winter on barrier islands near Tampa and St. Petersburg, Brower said. Under the right conditions, they might be able to survive as far north as the coast of the panhandle. Planting more trees on barrier islands along the central Florida coast would give monarchs refuge from winter storms, and planting more flowers would provide a food source.

Brower said if such measures are not taken in the United States and if development in the butterfly's Mexican winter home continues, the monarch could die out in eastern North America within the next 15 years.

Monarch butterflies make only one trip to Mexico in their lifetimes, relying on instinct to find their way. They begin their journey in Canada and the northern United States in late August-early September and arrive in Mexico's Transvolcanic Range by mid-November. Their return trip begins in late March. After laying their eggs on milkweed plants along the Gulf Coast, they die.

ARSON ALERT 1-800-282-7669

Each year, Florida forests and wildlands suffer more than 2,000 arson fires, burning an average of 200,000 acres and destroying more than $15 million worth of timber. The Florida Department of Agriculture and Consumer Services is urging Floridians to report forest arson.

Since 1986, the Department's Arson Alert program has provided citizens the opportunity to call and anonymously report forest arson or suspicious activities. The number is 1-800-282-7669. A caller could receive a reward ranging from $100 to $1,000 for information resulting in an arrest. Thus far, the program has paid 10 rewards totaling $3,300.

In addition to trees, arson fires also burn homes, barns, storage sheds and other structures. They also destroy wildlife habitat, damage air and water quality and ruin the aesthetic value of state forests.

AUDUBON SOCIETY RECOGNIZES COMMISSION EMPLOYEE

The Florida Audubon Society recently presented its Allen D. Cruickshank Award for outstanding efforts in environmental education to Judy Gillan, the commission's education coordinator, for her "long-standing commitment to environmental education as a way to improve the quality of life of Floridians and wildlife."

Gillan was commended for her involvement in the Commission's nongame wildlife program, development of educational materials including the Animated Alphabet coloring book, the Wildlife Needs Wildlands series and the Schoolyard Habitat education program. She was also cited for her involvement in several professional organizations and for supervising the Commission's Project WILD, youth camp and hunter education programs.

"GEORGE – YOU'RE SPENDING TOO MUCH TIME BASS FISHING."

The award is named for ornithologist Allen Cruickshank, who made nationally recognized contributions to environmental education.

— Mary M. Davis

THOUSANDS HELP CLEAN UP COASTLINE

The Center for Marine Conservation (CMC) reports that 18,488 volunteers gathered to clean up Florida's beaches last Sept. 21.

Combing 1,203 miles of coastline, the volunteers collected more than 180 tons of trash in a three-hour period. They also provided valuable data that CMC will use to prepare a report on the state of the world's beaches. The report will be released in May.

As in previous years, cigarette butts were the number one trash item collected. Volunteers also discovered entangled animals, further demonstrating the dangers posed to wildlife by marine pollution. Cleanup crews found a raccoon, turtles, crabs, fish, a cormorant, pelican and other birds entangled in discarded monofilament line, cast nets and crab traps.

Among the unusual items picked up were a toilet, a radio for a '57 Ford, a 26-inch color TV, a skateboard, a vacuum cleaner, a garter belt and a set of false teeth.

WE'RE COMPUTERIZED

Notice any difference in the appearance of FLORIDA WILDLIFE in the past two issues? We've switched to a desktop publishing system to streamline the production process.

In addition to making the magazine easier to put together, the system produces type that is crisp and uniform in density.

"This computer replaces a finicky typesetting machine," said art editor Peggy Perkerson. "It seemed to know when deadline was approaching, because that's when it tended to break down."

We're pleased with the way new production system makes the magazine look. We hope you are, too.

REPORT WILDLIFE LAW VIOLATORS AND POLLUTERS.

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Panama City:	1-800-342-1676
Lake City:	1-800-342-8105
Ocala:	1-800-342-9620
Lakeland:	1-800-282-8002
West Palm Beach:	1-800-432-2046

REGIONAL OFFICES
Florida Game & Fresh Water Fish Commission

Northwest Region
6938 Hwy 2321
Panama City, FL 32409-9338
Telephone: (904) 265-3676

Northeast Region
Route 7, Box 440
Lake City, FL 32055
Telephone: (904) 758-0525

Central Region
1239 S.W. 10th Street
Ocala, FL 32674
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South Region
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Floridana

Florida — the very name conjures up images of a land of flowers, sunshine, palm trees, miles of beaches, rivers and streams and acres of lakes. Golden Rod, Lantana, Jessamine, Sun City, Sunniland, Palm Beach County, Coconut Grove, Clearwater, Crystal River reflect what the state's resources meant to those who first named the lakes, rivers, villages, counties, cities and wide places in the road.

Their love of Florida's clear water and diverse wildlife was evident by the many "place-names" given to settlements and geographic features.

Although no towns or counties in Florida are named for snakes, several topographic features reflect the abundance of these reptiles: Snake Key (in Monroe County), Snake River Canal (Dade), Moccasin Creek (Baker), Moccasin Branch (St. Johns) are but a few slithery place-names.

"Rattlesnake" was once an active community halfway between St. Petersburg and Tampa. The small area was named for the rattlesnake cannery owned and operated by George K. End, who also packaged rattlesnake oil for rheumatism treatments and venom for hospital and laboratory use. It seems he succumbed to one of the hazards of the snake oil salesman trade — the bite of one of the venomous reptiles.

Early settlers didn't have a problem with using reptilian place-names, but when Florida became more image-conscious, two "Snake River" stream names were changed. In Osceola County the name was changed to Ten Mile Creek. In Monroe County, the stream became Rodgers River.

The omnipresent mosquito also has been glorified in Florida with place-names. However, in 1845 officials decided that Mosquito County wasn't good for the tourist trade and so they opted for the more pleasing citrus connection, Orange County. The Mosquito River was renamed the Halifax during the British occupation, although a few creeks and at least one inlet still are named for this pesky insect.

Cuckoo Point, Turkey Creek, Duck Key, Eagle Bay, Pelican Island are only a few of the names that proclaim the bounty of Florida's feathered residents.

Hundreds of place-names extol the virtues of our state's clear water and fresh and saltwater fish species. Fisheating Creek, Pompano Beach, Catfish Creek, Shark Point, Fishweir Creek, Mullet Key, Clambar, Oyster Bay and Trout Lake tell visitors of the area's rich resources.

Florida boasts a Manatee County as well as several waterways named after the endangered aquatic giant. Hillsborough County's Bullfrog Creek and Frog Creek herald the plethora of amphibian life. Wolf Creek, Raccoon Key, Fox Point, Rabbit Island, Otter Creek and other animal place-names are descriptive of the area's inhabitants.

Eight counties claim a "Bear Creek" and there are numerous streams, branches, islands and other features that bear listing. And, Taylor County's "Buckhorn" isn't a misnomer. The story goes that it commemorates a cattleman killing a buck during a cattle roundup.

Gopher Ridge, Loggerhead Key and many translations of Seminole-Creek words for turtles tell of their abundance years ago. Probably the best-known turtle place-name was given when Ponce de Leon named what is now Monroe County's Dry Tortugas Islands in 1513.

Will school children of the 21st century know what a manatee is? Will future Floridians recall why Crystal River was so named, or understand the legacy of Buena Vista when they look out over acres of developed lands?

Florida's names reflect the abundance of our natural resources when Europeans first came to our shores 500 years ago. Let us reflect upon the many names given to these places — both by native peoples and Europeans. It's up to us to preserve the legacy of these namesakes.

— Andrea H. Blount

Researched from ***Places In The Sun*** *by Bertha E. Bloodworth and Alton Morris.*